



Appliances for the Mechanical Transmission of Power

ELEVATING & CONVEYING
MACHINERY

Catalog 935



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Appliances for the Mechanical Transmission of Power

ELEVATING & CONVEYING MACHINERY

Catalog 935

This catalog supersedes all previous issues

The price lists and dimensions are subject
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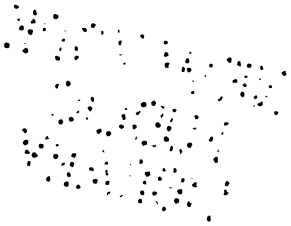
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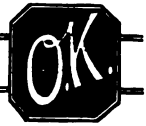
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FOREWORD

IN THIS catalog it is endeavored to completely cover, in a clear and concise manner, the many lines handled by our Power Transmission Division.

Tables and specifications have been worked out with care and precision to assist the purchaser to readily determine his transmission requirements.

Our specialists may be called upon at any time for information and suggestions as to suitable materials and the manner of best adapting them.

THE FAIRBANKS O. K. is a guarantee placed upon all Fairbanks products. In addition to the complete line of Power Transmission Appliances and Elevating and Conveying Machinery, the Fairbanks Company sells—

SCALES

VALVES

TRUCKS AND WHEELBARROWS

ENGINES AND PUMPS

MACHINE TOOLS

MILL, MINE AND RAILWAY SUPPLIES

AUTOMOBILE AND SERVICE STATION EQUIPMENT

Shafting

Especially adapted to the transmission of power, made of the best quality of Bessemer Steel, finished accurately to size and absolutely round.

All shafts are straightened after keyseating or machining, which insures free and true running lines, eliminates the possibility of binding in bearings, reduces friction to a minimum and prevents heating of bearings which is frequently the cause of considerable expense.

For service requiring shafting made of material possessing higher physical properties than Bessemer Steel, we can supply shafting made from special stock, including forged nickel steel and forged and annealed vanadium steel. These materials cover the requirements of greater tensile strength, higher elastic limit and are suitable for withstanding extremely heavy shocks and severe vibration.

While shafting can be furnished of almost any diameter, for the transmission of power it is preferable to use such sizes as will harmonize with the standard sizes in which bearings, couplings and other appliances are manufactured and carried in stock.

Prices for complete shafting specifications will be quoted upon application, or may be figured at base price quoted with net extras added, as shown by the following table and on pages 5 and 6.

The base price for shafting covers sizes $2\frac{1}{4}$ to 3 inch diameters, inclusive, in lengths 5 to 24 feet, inclusive.

Shafting $6\frac{15}{16}$ inches in diameter and smaller is usually made from hot rolled steel bars. Prices for sizes 7 inches in diameter and larger, made from forged steel bars, will be quoted upon application.

Shafting Weights and Price List

Diam. Inches	Wght. per ft. lbs.	Net price per 100 lbs.	Diam. Inches	Wght. per ft. lbs.	Net price per 100 lbs.	Diam. Inches	Wght. per ft. lbs.	Net price per 100 lbs.	Diam. Inches	Wght. per ft. lbs.	Net price per 100 lbs.	Diam. Inches	Wght. per ft. lbs.	Net price per 100 lbs.
$\frac{1}{8}$.0417	Base price	$1\frac{1}{8}$	3.38	Base price +\$2.25	$2\frac{1}{2}$	16.09	Base price	$3\frac{13}{16}$	38.81	Base price	$5\frac{3}{8}$	70.14	Base price +\$1.00
$\frac{1}{4}$	.0652	+\$2.25	$1\frac{1}{4}$	3.77		$2\frac{3}{4}$	17.55		$3\frac{3}{4}$	40.10	+\$50	$5\frac{1}{2}$	71.86
$\frac{3}{8}$	.0939	Base price	$1\frac{3}{8}$	4.17		$2\frac{7}{8}$	18.41		$3\frac{1}{2}$	41.40	Base price +\$1.50	$5\frac{3}{4}$	73.60
$\frac{1}{2}$	.1278	+\$1.50	$1\frac{5}{8}$	4.60		$2\frac{9}{8}$	19.29		4	42.73		$5\frac{7}{8}$	75.37
$\frac{3}{4}$	.1669	Base price	$1\frac{7}{8}$	5.05		$2\frac{11}{8}$	20.20		$4\frac{1}{4}$	44.07		$5\frac{15}{16}$	77.15
$\frac{7}{8}$.2112	+\$1.90	$1\frac{9}{8}$	5.52	Base price +\$2.25	$2\frac{13}{8}$	21.15	Base price +\$2.50	$4\frac{3}{8}$	45.44	Base price	$5\frac{1}{2}$	80.77	Base price +\$1.50
$\frac{1}{2}$	.2608	Base price	$1\frac{1}{2}$	6.01		$2\frac{15}{8}$	22.07		$4\frac{1}{2}$	46.83	+\$80	$5\frac{3}{8}$	82.62
$\frac{11}{16}$	.3155	+\$2.25	$1\frac{3}{4}$	6.52		3	23.04		$4\frac{3}{4}$	48.24	Base price +\$2.00	$5\frac{5}{8}$	84.49
$\frac{3}{4}$	.3755	Base price	$1\frac{5}{4}$	7.05		$3\frac{1}{8}$	24.03		$4\frac{5}{8}$	49.66		$5\frac{7}{8}$	86.38
$\frac{7}{8}$	.5111	+\$2.50	$1\frac{7}{4}$	7.61		$3\frac{3}{8}$	25.05	Base price +\$2.50	$4\frac{7}{8}$	51.11		$5\frac{9}{8}$	88.29
$\frac{1}{2}$	.6676	Base price	$1\frac{9}{4}$	8.18	Base price +\$3.00	$3\frac{5}{8}$	26.09		$4\frac{9}{8}$	52.58	Base price +\$2.50	$5\frac{11}{8}$	90.22
$\frac{3}{4}$	.8449	+\$3.00	$1\frac{11}{4}$	8.78		$3\frac{7}{8}$	27.13		$4\frac{11}{8}$	54.08		$5\frac{13}{8}$	92.17
$\frac{7}{8}$	1.043	Base price	$1\frac{13}{4}$	9.39		$3\frac{9}{8}$	28.21		$4\frac{13}{8}$	55.59		$5\frac{15}{8}$	94.14	
$\frac{11}{16}$	1.262	+\$3.50	$1\frac{15}{4}$	10.02	Base price +\$3.50	$3\frac{11}{8}$	29.30	Base price +\$3.50	$4\frac{15}{8}$	57.12	Base price +\$3.50	6	96.14	Base price +\$2.50
$\frac{3}{4}$	1.502	Base price	$1\frac{17}{4}$	10.68		$3\frac{13}{8}$	30.43		$4\frac{17}{8}$	58.68		$6\frac{1}{4}$	102.2	
$\frac{7}{8}$	1.763	+\$4.00	$1\frac{19}{4}$	11.36		$3\frac{15}{8}$	31.56		$4\frac{19}{8}$	60.25		$6\frac{3}{4}$	104.3	
$\frac{11}{16}$	2.045	Base price	$1\frac{21}{4}$	12.07		$3\frac{17}{8}$	32.71		$4\frac{21}{8}$	61.85		$6\frac{5}{4}$	110.7	
$\frac{3}{4}$	2.347	+\$4.50	$1\frac{23}{4}$	12.78		$3\frac{19}{8}$	33.90	Base price +\$4.00	$4\frac{23}{8}$	63.47	Base price +\$4.00	$6\frac{7}{4}$	117.7	
$\frac{7}{8}$	2.670	Base price	$1\frac{25}{4}$	13.52	Base price +\$4.50	$3\frac{21}{8}$	35.09		$4\frac{25}{8}$	65.10		$6\frac{9}{4}$	121.7	
$\frac{11}{16}$	3.014	+\$5.00	$1\frac{27}{4}$	14.28		$3\frac{23}{8}$	36.31		5	66.76		$6\frac{11}{4}$	125.5	
			$1\frac{29}{4}$	15.07		$3\frac{25}{8}$	37.56		$5\frac{1}{4}$	68.44				
			$1\frac{31}{4}$	15.87										

For miscellaneous and keyseating extras, see pages 5 and 6.

Cold Finished Steel

Base price per 100 pounds will be quoted, to which must be added the following size and miscellaneous net extras:

SQUARES

Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.
$\frac{1}{8}$	.053	Base price +\$3.50	$\frac{1}{2}$	.85	Base price +\$1.00	$1\frac{3}{8}$	6.43		$2\frac{1}{4}$	17.22	Base price +\$1.00
			$\frac{9}{16}$	1.08		$1\frac{7}{8}$	7.03		$2\frac{5}{16}$	18.19	
			$\frac{5}{8}$	1.33		$1\frac{1}{2}$	7.65		$2\frac{3}{8}$	19.18	
						$1\frac{1}{16}$	8.30		$2\frac{1}{16}$	20.20	
$\frac{3}{16}$	.119	Base price +\$3.00	$1\frac{1}{16}$	1.61	Base price +\$0.80	$1\frac{5}{8}$	8.98	Base price +\$0.60	$2\frac{1}{2}$	21.26	Base price +\$1.50
			$\frac{3}{4}$	1.91		$1\frac{11}{16}$	9.68		$2\frac{5}{8}$	23.43	
			$1\frac{1}{4}$	2.25		$1\frac{3}{4}$	10.42		$2\frac{3}{4}$	25.72	
$\frac{1}{4}$	.212	Base price +\$2.00	$\frac{7}{8}$	2.60		$1\frac{13}{16}$	11.18		$2\frac{1}{2}$	29.34	
$\frac{5}{16}$	.333		$1\frac{5}{16}$	2.99		$1\frac{7}{8}$	11.96		3	30.61	
			1	3.40	Base price +\$0.70	$1\frac{15}{16}$	12.77				
			$1\frac{1}{16}$	3.86		2	13.60		$3\frac{1}{4}$	35.92	Base price +\$2.00
$\frac{3}{8}$	.478	Base price +\$1.35	$1\frac{1}{8}$	4.30		$2\frac{1}{16}$	14.46	Base price +\$1.00	$3\frac{1}{2}$	41.67	
$\frac{7}{16}$	.651		$1\frac{3}{8}$	4.79		$2\frac{1}{8}$	15.35		$3\frac{3}{4}$	47.82	
			$1\frac{1}{4}$	5.31		$2\frac{3}{16}$	16.27		4	54.40	
			$1\frac{5}{16}$	5.85							

HEXAGONS

Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.	Sizes, Inches	Weight per ft., lbs.	Net price per 100 lbs.
$\frac{1}{8}$	.049	Base price +\$3.50	$1\frac{1}{16}$	1.40	Base price +\$0.80	$1\frac{1}{2}$	6.62		$2\frac{3}{16}$	14.08	Base price +\$1.00
			$\frac{3}{4}$	1.66		$1\frac{9}{16}$	7.17		$2\frac{1}{4}$	14.85	
			$1\frac{1}{16}$	1.91		$1\frac{5}{8}$	7.76	Base price +\$0.60	$2\frac{5}{16}$	15.80	
$\frac{3}{16}$	.108	Base price +\$3.00	$\frac{7}{8}$	2.25		$1\frac{11}{16}$	8.37		$2\frac{3}{8}$	16.58	
			$1\frac{5}{16}$	2.58		$1\frac{3}{4}$	9.00		$2\frac{1}{16}$	17.50	
			1	2.94	Base price +\$0.70	$1\frac{13}{16}$	9.65		$2\frac{1}{2}$	18.37	Base price +\$1.50
$\frac{1}{4}$	.195	Base price +\$2.00	$1\frac{1}{8}$	3.33		$1\frac{7}{8}$	10.32		$2\frac{5}{8}$	20.25	
$\frac{5}{16}$	.29		$1\frac{3}{8}$	3.73		$1\frac{15}{16}$	11.00		$2\frac{3}{4}$	22.25	
			$1\frac{1}{4}$	4.15		2	11.70		$2\frac{7}{8}$	24.31	
$\frac{3}{8}$	.43	Base price +\$1.35	$1\frac{1}{2}$	4.60		$2\frac{1}{16}$	12.51	Base price +\$1.00	3	26.45	
$\frac{7}{16}$	.56		$1\frac{5}{8}$	5.07		$2\frac{1}{8}$	13.27				
			$1\frac{3}{4}$	5.57	Base price +\$0.60						
$\frac{1}{2}$	.73	Base price +\$1.00	$1\frac{7}{8}$	6.07							
$\frac{9}{16}$	.93										
$\frac{5}{8}$	1.15										

FLATS

Thickness, Inches	Width in Inches						
	$\frac{1}{4}$	$\frac{5}{16}$ to $\frac{1}{2}$	$\frac{5}{8}$ to $\frac{3}{4}$	$\frac{3}{4}$ to 1	$1\frac{1}{8}$ to $1\frac{1}{2}$	$1\frac{3}{4}$ to 3	Wider than 3
	Net additional to Base price per 100 lbs.						
$\frac{1}{8}$ and $\frac{5}{32}$	\$8.50	\$6.50	\$5.50	\$4.50	\$3.50	\$2.50	\$2.50
$\frac{3}{16}$ to $\frac{5}{16}$	7.50	5.50	5.00	3.50	2.50	1.50	2.50
$\frac{3}{8}$ " $\frac{7}{16}$	4.50	4.00	2.50	2.50	1.50	2.50
$\frac{1}{2}$ " $\frac{9}{16}$	3.00	1.50	1.50	1.25	2.50
$\frac{5}{8}$ " $\frac{11}{16}$	2.50	1.25	1.25	1.25	2.50
$\frac{3}{4}$ " $\frac{15}{16}$	1.25	1.25	1.25	2.50
1 " $1\frac{1}{16}$	1.25	1.25	2.50
$1\frac{1}{2}$ " $1\frac{1}{8}$	1.25	2.50
$1\frac{3}{4}$ " $1\frac{1}{4}$	1.25	2.50
2 " $2\frac{1}{8}$	1.25	2.50



Shafting and Cold Finished Steel

Standard Classification of Miscellaneous Net Extras

Quantity Differentials

All specifications for less than 2000 pounds of a size will be subject to the following extras, the total weight of a size ordered to determine the extra, regardless of length and regardless of the exact quantity actually shipped:

1000 to 1999 pounds.....	\$0.15 per 100 pounds net
Less than 1000 pounds.....	.35 " " " "

Extras for Long and Short Lengths, Per 100 Pounds Net

	Rounds	Squares	Hexagons	Flats	
3 to 5 ¹⁵ / ₁₆ inches	\$1.50	\$1.50	\$1.50	\$3.00	Lengths longer than 24 feet and less than 30 feet.. \$0.50
6 to 11 ¹⁵ / ₁₆ inches	.75	.75	.75	1.50	30 feet and less than 35 feet..... 1.00
12 to 23 ¹⁵ / ₁₆ inches	.30	.60	.30	.75	35 feet and less than 40 feet..... 1.50
24 to 59 ¹⁵ / ₁₆ inches	.15	.30	.15	.40	40 feet and less than 45 feet..... 2.00
					45 feet and longer..... 2.50

Extras for long lengths apply on Rounds, Squares, Hexagons, and Flats.

Extras for Chamfering, Per 100 Pounds Net (for Automatic Screw Machine Use only)

	Rounds	Hexagons and Squares
7 ¹ / ₁₆ to 5 ⁸ / ₁₆ inches.....	\$0.13	\$0.15
1 ¹ / ₁₆ to 1 ¹⁵ / ₁₆ inches.....	.10	.13
1 to 2 inches.....	.065	.115
2 ¹ / ₁₆ inches and larger.....	.04	.10

These extras apply on lengths 10 feet and longer for chamfering one end of bar only. For sizes smaller than 7¹/₁₆ inches and bars shorter than 10 feet, special prices will be quoted.

Boxing and Burlapping, Per 100 Pounds Net

(Mill Shipments only)

Boxing (minimum \$0.50), domestic shipment.....	\$0.40
Boxing (minimum \$0.50), export shipment.....	.50
Burlapping (minimum \$0.25), full length.....	.25
Burlapping (minimum \$0.25), ends only.....	.10

Extras for Centering Rounds, Per 100 Pounds Net

Sizes	6 to 12 inches in length	12 ¹ / ₂ to 24 inches in length	24 ¹ / ₂ inches and longer
1 ¹ / ₂ to 3 ¹ / ₄ inch.....	\$2.50	\$1.50	\$1.00
1 ³ / ₁₆ to 1 ¹ / ₄ inches.....	1.50	1.00	.75
1 ⁵ / ₁₆ to 2 ¹ / ₄ inches.....	1.00	.75	.50
2 ⁵ / ₁₆ to 4 inches.....	.75	.50	.30
4 ¹ / ₁₆ to 6 inches.....	.50	.30	.10

Piston Rod Steel

Uniformity to size and carefully selected surface finish—\$0.50 per 100 pounds net extra, in addition to usual extras for accuracy and short and long lengths.

Roller Bearing Steel

Special analysis and finish (for special accuracy, regular extras will apply).....\$1.00 per 100 pounds net extra

Extra for Odd and Intermediate Sizes

The following sizes in rounds, hexagons and squares will be considered standard:

- By 64ths to 1 inch inclusive.
- By 32nds, 1¹/₂ to 1³/₂ inches inclusive.
- By 16ths, 2 inches to maker's limit.

All odd and intermediate sizes, (excepting those allowing a total tolerance of .008 inches and such specifications must be for not less than 2000 pounds of a size), not less than \$0.25 per 100 pounds net extra, in addition to the usual extras for accuracy, etc.

Extras for Accuracy—Rounds (Carbon .30 per cent or less)

For accuracy from exact size to .0015 inch under, sizes 3 inches diameter and smaller, \$0.25 per 100 pounds net.

For accuracy from exact size to .001 inch under, or from exact size to not more than .001 inch either way, sizes 2¹/₂ inches diameter and smaller, \$0.50 per 100 pounds net.

For accuracy within .0005 inch either way and from exact to .001 inch over size, sizes 2 inches diameter and smaller, (standard sizes only) \$1.00 per 100 pounds net.

For accuracy .001 inch either way or from exact size to .001 inch over, or from exact size to .001 inch under—sizes 2 inches diameter and smaller (odd and intermediate sizes) \$1.00 per 100 pounds net.

For same accuracy in squares, hexagons and flats, double net extras for rounds.

For rounds, squares, hexagons and flats with a carbon content in excess of .30 per cent, double all preceding net extras.

Extras for Special and High Carbon Open Hearth Steels

Specified analysis—carbon .30 per cent and less.....	\$0.25 per 100 pounds net
" " —carbon .30 per cent and less, sulphur guaranteed .05 per cent and under	0.50 " 100 " "
" " —carbon .31 per cent to .50 per cent.....	0.50 " 100 " "

Keyseating Shafting



Fig. T-300

The upper shaft in the illustration shows squared end and drilled end keyseats with bottoms level full length.

The lower shaft shows end keyseats for couplings and middle keyseats for pulleys or gears. These keyseats have milled ends as left by keyseat cutter.

Unless otherwise ordered, keyseats are cut as illustrated in lower shaft, and the length measurement is made at bottom of keyseat with milled ends extending beyond actual length specified.

Price List for Keyseating and Shouldering Shafting

Diameter of Shaft, Inches	Full Length per foot	Milled Ends For Couplings per end	MIDDLE SPLINES				Turning to reduce diameter 1/4 inch or less for 1st foot	Turning to reduce diameter 1/4 inch or less for 2d foot or more
			1st Foot or less, Milled End	2d Foot and over, per foot	Extra for each Drilled End	Extra for each Squared End		
1 1/16 to 1 1/8	\$0.16	\$0.24	\$0.50	\$0.16	\$0.20	\$0.30	\$1.30	\$0.30
1 3/16 " 1 3/8	.20	.30	.60	.20	.30	.40	1.40	.35
1 7/16 " 1 3/4	.24	.40	.70	.24	.40	.50	1.45	.40
1 9/16 " 2 1/8	.30	.50	.80	.30	.50	.60	1.70	.50
2 3/16 " 2 3/4	.40	.60	.90	.40	.60	.70	1.90	.55
2 13/16 " 3 3/8	.50	.80	1.10	.50	.70	.80	2.40	.85
3 1/16 " 3 7/8	.60	1.00	1.30	.60	.80	1.00	2.65	.95
3 15/16 " 4 1/4	.70	1.20	1.50	.70	.90	1.20	3.00	1.10
4 5/16 " 4 3/4	.90	1.40	1.70	.90	1.00	1.30	3.60	1.20
4 13/16 " 5 1/4	1.20	1.70	2.20	1.20	1.10	1.50	4.30	1.30
5 5/16 " 5 3/4	1.50	2.00	2.50	1.50	1.30	1.70	4.70	1.45
5 13/16 " 6	2.00	2.50	3.00	2.00	1.50	2.00	5.40	1.55
6 1/16 " 7	2.25	2.75	3.25	2.25	1.80	2.30	6.00	1.65
7 1/16 " 8	2.50	3.00	3.50	2.50	2.00	2.50	7.10	1.95
8 1/16 " 9	2.75	3.25	3.75	2.75	2.30	2.75	7.90	2.20
9 1/16 " 10	3.00	3.50	4.00	3.00	2.50	3.00	8.40	2.45

Standard Shafting Keyseat Dimensions

Shaft Sizes, Inches	Width and Depth, Inches	Shaft Sizes, Inches	Width and Depth, Inches	Shaft Sizes, Inches	Width and Depth, Inches
3/4 to 7/8	3/16 x 3/32	2 7/16 to 2 5/8	5/8 x 5/16	4 3/16 to 4 5/8	1 1/8 x 1/2
15/16 " 1 1/8	1/4 x 1/8	2 11/16 " 2 7/8	11/16 x 11/32	4 11/16 " 5 3/8	1 1/4 x 1/2
1 5/16 " 1 3/8	5/16 x 5/32	2 15/16 " 3 1/8	3/4 x 3/8	5 1/16 " 5 5/8	1 3/8 x 1/2
1 7/16 " 1 5/8	3/8 x 3/16	3 3/16 " 3 3/8	13/16 x 13/32	5 11/16 " 6 7/8	1 1/2 x 5/8
1 11/16 " 1 7/8	7/16 x 7/32	3 7/16 " 3 5/8	7/8 x 7/16	6 15/16 " 7 7/8	1 3/4 x 3/4
1 15/16 " 2 1/8	1/2 x 1/4	3 11/16 " 3 7/8	15/16 x 15/32	7 15/16 " 8 7/8	2 x 3/4
2 3/16 " 2 3/8	9/16 x 9/32	3 15/16 " 4 1/8	1 x 1/2		

NOTE—The above dimensions are standard for shafting and all articles to be attached, such as pulleys, sheaves, sprockets, gears, couplings, clutches, etc. Where pulleys, or other appliance are to be attached to friction clutch sleeves, use dimensions given on page 80.

Size and Capacity of Shafting

No general rule can be made for determining size or capacity of shafting. In making calculations for specific installations, careful consideration should be given to the following:

Distance between bearings; pull of belts and ropes, or thrust of gears and relative location of same with reference to bearings; weight of shaft together with weight of pulleys and other appliances which it carries; revolutions per minute; rigidity of supports and the possibility of excessive vibration; also the relation between normal operating and peak loads.

The following table is a safe one to use for general line shaft service where load is steady, speed not excessive and bearings properly spaced, with the pulleys placed close to bearings.

The values in the table are based on formulas $D = \sqrt[3]{\frac{80 \times \text{H.P.}}{\text{R.P.M.}}}$ and $\text{H.P.} = \frac{D^3 \times \text{R.P.M.}}{80}$

Table of Horse Power for Line Shafts

Diameter of Shaft, Inches	Revolutions per Minute									
	100	125	150	175	200	225	250	300	350	400
1 $\frac{3}{16}$	2.4	3.0	3.6	4.2	4.8	5.4	6.0	7.2	8.5	9.7
1 $\frac{1}{8}$	4.3	5.4	6.5	7.6	8.6	9.8	10.8	13.0	14.8	16.9
1 $\frac{1}{4}$	6.5	8.0	9.7	11.2	13.0	14.6	16.0	19.4	23.4	26.8
1 $\frac{3}{8}$	10.0	12.5	15.0	17.5	20.0	22.5	25.0	30.0	35.0	40.0
2 $\frac{3}{16}$	14.0	17.8	21.0	24.5	28.0	31.5	35.6	42.0	49.8	57.0
2 $\frac{1}{4}$	20.0	25.0	30.0	35.0	40.0	45.0	50.0	60.0	68.2	78.0
2 $\frac{1}{2}$	26.5	32.5	40.0	44.6	53.0	59.0	65.0	80.0	87.0	104.0
2 $\frac{3}{4}$	34.0	42.5	51.0	59.5	68.0	76.5	85.0	102.0	118.2	135.0
3 $\frac{1}{8}$	54.0	67.5	81.0	94.5	108.0	122.0	135.0	162.0	187.6	214.4
3 $\frac{1}{4}$	80.0	100.0	120.0	140.0	160.0	180.0	200.0	240.0	280.0	320.0
4 $\frac{1}{8}$	114.0	142.5	171.0	199.5	228.0	256.5	285.0	342.0	398.6	455.6
4 $\frac{1}{4}$	156.0	195.0	234.0	273.0	312.0	351.0	390.0	486.0	546.8	625.0
5 $\frac{1}{8}$	208.0	260.0	312.0	364.0	416.0	468.0	520.0	624.0	727.9	830.0
5 $\frac{1}{4}$	270.0	337.5	405.0	472.5	540.0	607.5	675.0	810.0	945.0	1080.0
6 $\frac{1}{8}$	340.0	425.0	510.0	595.0	680.0	765.0	850.0	1020.0	1201.0	1372.0
6 $\frac{3}{8}$	420.0	525.0	630.0	735.0	840.0	945.0	1050.0	1260.0	1500.0	1695.0
7 $\frac{1}{8}$	640.0	800.0	960.0	1120.0	1280.0	1440.0	1600.0	1920.0	2240.0	2560.0

For head or jack shafts supported by bearings close to main driving pulleys, the following formulas should be used giving capacities 36 per cent less than those in above table.

$$D = \sqrt[3]{\frac{125 \times \text{H.P.}}{\text{R.P.M.}}} \text{ and } \text{H.P.} = \frac{D^3 \times \text{R.P.M.}}{125}$$

For line shafts transmitting power only, subject to no bending action except that due to its own weight and operating at a speed not relatively high, the following formulas may be used, giving capacities 60 per cent greater than those in above table.

$$D = \sqrt[3]{\frac{50 \times \text{H.P.}}{\text{R.P.M.}}} \text{ and } \text{H.P.} = \frac{D^3 \times \text{R.P.M.}}{50}$$

H.P. = Horse power. D = Diameter of shaft in inches. R.P.M. = Revolutions of shaft per minute.

Safety Set Collars



Fig. T-301
Solid

Made of cast-iron in both solid and split types. These collars are bored accurately to size, flanges faced each side and turned on outer diameter to insure true running when in position on shaft.



Fig. T-302
Split

Price List

SOLID				SPLIT			
Shaft Sizes, Inches	List Prices	Dimensions in Inches		Shaft Sizes, Inches	List Prices	Dimensions in Inches	
		Diameter	Width			Diameter	Width
1 ¹⁵ / ₁₆	\$ 0.60	2 ¹ / ₂	1 ¹ / ₁₆	1 ¹⁵ / ₁₆	\$ 0.90	2 ¹ / ₂	1 ¹ / ₁₆
1 ³ / ₁₆	0.80	2 ¹ / ₂	1 ¹ / ₁₆	1 ³ / ₁₆	1.20	2 ¹ / ₂	1 ¹ / ₁₆
1 ¹ / ₁₆	1.00	2 ⁷ / ₈	1 ⁷ / ₁₆	1 ¹ / ₁₆	1.50	3	1 ⁷ / ₁₆
1 ¹¹ / ₁₆	1.20	3 ³ / ₈	1 ¹ / ₂	1 ¹¹ / ₁₆	1.80	3 ³ / ₈	1 ¹ / ₂
1 ¹⁵ / ₁₆	1.40	3 ⁷ / ₈	1 ⁵ / ₈	1 ¹⁵ / ₁₆	2.10	4	1 ⁵ / ₈
2 ³ / ₁₆	1.60	4 ¹ / ₈	1 ⁵ / ₈	2 ³ / ₁₆	2.40	4 ¹ / ₄	1 ⁵ / ₈
2 ⁷ / ₁₆	1.80	4 ¹ / ₂	1 ⁷ / ₈	2 ⁷ / ₁₆	2.70	4 ³ / ₄	1 ⁷ / ₈
2 ¹¹ / ₁₆	2.10	4 ³ / ₄	1 ⁷ / ₈	2 ¹¹ / ₁₆	3.15	5	1 ⁷ / ₈
2 ¹⁵ / ₁₆	2.40	5 ¹ / ₄	2 ¹ / ₈	2 ¹⁵ / ₁₆	3.60	5 ¹ / ₂	2 ¹ / ₈
3 ³ / ₁₆	2.70	5 ¹ / ₂	2 ¹ / ₈	3 ³ / ₁₆	4.05	5 ³ / ₄	2 ¹ / ₈
3 ⁷ / ₁₆	3.00	6	2 ¹ / ₄	3 ⁷ / ₁₆	4.50	6 ¹ / ₂	2 ¹ / ₄
3 ¹¹ / ₁₆	3.30	6 ¹ / ₄	2 ¹ / ₄	3 ¹¹ / ₁₆	4.95	6 ³ / ₄	2 ¹ / ₄
3 ¹⁵ / ₁₆	3.60	6 ¹ / ₂	2 ¹ / ₄	3 ¹⁵ / ₁₆	5.40	7	2 ¹ / ₄
4 ¹ / ₁₆	4.70	7 ¹ / ₄	2 ¹ / ₂	4 ¹ / ₁₆	7.05	8	2 ¹ / ₂
4 ⁵ / ₁₆	5.90	8	2 ¹ / ₂	4 ⁵ / ₁₆	8.85	9	2 ¹ / ₂
5 ¹ / ₁₆	7.20	8 ¹ / ₂	2 ¹ / ₂	5 ¹ / ₁₆	10.80	9 ¹ / ₂	2 ¹ / ₂
5 ⁵ / ₁₆	8.60	9	3	5 ⁵ / ₁₆	12.90	10	3
6 ¹ / ₁₆	10.10	9 ³ / ₄	3 ¹ / ₂	6 ¹ / ₁₆	15.15	10 ¹ / ₂	3 ¹ / ₂
6 ⁵ / ₁₆	11.70	10 ¹ / ₄	3 ¹ / ₂	6 ⁵ / ₁₆	17.55	11	3 ¹ / ₂
7 ¹ / ₁₆	13.80	11	3 ¹ / ₂	7 ¹ / ₁₆	20.70	11 ³ / ₄	3 ¹ / ₂
7 ⁵ / ₁₆	15.90	11 ¹ / ₂	3 ¹ / ₂	7 ⁵ / ₁₆	23.85	12 ¹ / ₄	3 ¹ / ₂

Concealed Fast Collars



Fig. T-303

Forged from bar steel, bored slightly under size and shrunk on shaft, then turned and finished on shaft centers insuring true running.

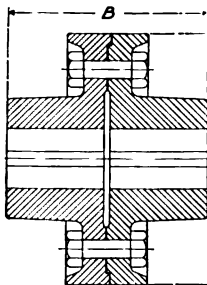
Only one collar of this type should be used on a line shaft except where line is in sections connected with loose couplings in which case each free section should have one collar.

Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices
1 ¹⁵ / ₁₆	\$2.10	3 ⁷ / ₁₆	\$4.10	5 ¹⁵ / ₁₆	\$9.40
2 ³ / ₁₆	2.40	3 ¹¹ / ₁₆	4.50	6 ⁷ / ₁₆	11.00
2 ⁷ / ₁₆	2.70	3 ¹⁵ / ₁₆	4.90	6 ¹⁵ / ₁₆	12.80
2 ¹¹ / ₁₆	3.00	4 ⁷ / ₁₆	5.80	7 ⁷ / ₁₆	15.00
2 ¹⁵ / ₁₆	3.30	4 ¹⁵ / ₁₆	6.80	7 ¹⁵ / ₁₆	17.50
3 ³ / ₁₆	3.70	5 ⁷ / ₁₆	8.00		

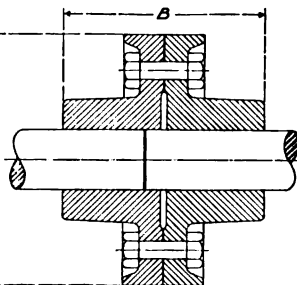
Flange or Plate Couplings



Fig. T-304



Male and Female Face Type



Standard Plain Face Type

These couplings are of a uniform design and amply heavy to withstand all ordinary line shaft service. Flanges project beyond bolt heads and nuts so that couplings comply with all legal requirements as to safety.

Each half is bored for a forced fit and finished accurately to template, making the halves interchangeable and easily duplicated. The bolt holes are reamed to size and fitted with turned steel bolts and finished hexagon nuts. All keyseats in flange couplings are cut tapering.

When couplings are ordered fitted, they are forced on shafts under heavy hydraulic pressure. Taper keys are then fitted, shaft is centered in lathe, reststraightened, and the faces of the couplings turned true at right angles to the axis of the shaft.

In fitting plain face couplings, one shaft is projected through one half of coupling into the bore of the other half. This makes a male-and-female connection and insures perfect alignment of shafts.

Plain face couplings for connecting shafts of same diameter and male and female face reducing couplings to connect shafts of different diameters, are carried in stock in all standard sizes and are furnished on all orders, unless otherwise specified.

Male and female face, flange couplings for connecting shafts of same diameter are made to order and are charged at an advance of ten per cent over the price of the plain face type.

Price List

Shaft Sizes, Inches	List Prices not fitted to Shafts	Extra List Prices for fitting to Shafts	Dimensions in Inches		Shaft Sizes, Inches	List Prices not fitted to Shafts	Extra List Prices for fitting to Shafts	Dimensions in Inches	
			A	B				A	B
1 $\frac{3}{16}$	\$7.50	\$3.75	6	4 $\frac{5}{8}$	4 $\frac{7}{16}$	\$43.00	\$10.50	13 $\frac{1}{2}$	13 $\frac{5}{8}$
1 $\frac{7}{16}$	8.00	4.00	6 $\frac{3}{4}$	5 $\frac{1}{8}$	4 $\frac{15}{16}$	55.00	11.50	16 $\frac{1}{4}$	14 $\frac{3}{8}$
1 $\frac{11}{16}$	8.50	4.25	7 $\frac{1}{4}$	5 $\frac{3}{4}$	5 $\frac{7}{16}$	67.00	13.00	17 $\frac{1}{2}$	15 $\frac{1}{8}$
1 $\frac{15}{16}$	9.00	4.50	8	6 $\frac{3}{8}$	5 $\frac{15}{16}$	81.00	14.50	19	16 $\frac{1}{8}$
2 $\frac{3}{16}$	10.50	4.75	8 $\frac{1}{2}$	6 $\frac{7}{8}$	6 $\frac{7}{16}$	96.00	16.50	20	16 $\frac{3}{4}$
2 $\frac{7}{16}$	12.50	5.25	9	7 $\frac{3}{8}$	6 $\frac{15}{16}$	115.00	18.50	21	17 $\frac{1}{2}$
2 $\frac{11}{16}$	15.00	5.75	9 $\frac{3}{4}$	7 $\frac{7}{8}$	7 $\frac{7}{16}$	135.00	21.00	22 $\frac{1}{2}$	18 $\frac{1}{2}$
2 $\frac{15}{16}$	18.50	6.25	10 $\frac{1}{2}$	8 $\frac{3}{8}$	7 $\frac{15}{16}$	160.00	24.00	24	19 $\frac{1}{2}$
3 $\frac{3}{16}$	22.00	7.00	10 $\frac{7}{8}$	8 $\frac{7}{8}$	8 $\frac{7}{16}$	200.00	28.00	27	21
3 $\frac{7}{16}$	25.00	7.75	11 $\frac{1}{4}$	9 $\frac{3}{8}$	8 $\frac{15}{16}$	225.00	30.00	27	22
3 $\frac{11}{16}$	29.00	8.50	12	10	9 $\frac{7}{16}$	270.00	36.00	30	23
3 $\frac{15}{16}$	33.50	9.50	12 $\frac{1}{2}$	10 $\frac{5}{8}$	9 $\frac{15}{16}$	300.00	40.00	30	24

Prices include keys. For reducing couplings, add 20 per cent to list price of the larger size.

Cast-Iron Separating Plates for Flange Couplings

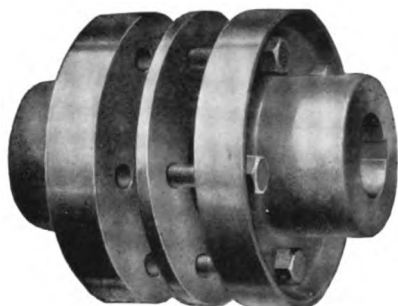


Fig. T-305

These plates are finished all over, drilled and reamed to match bolt holes of plain face flange couplings.

Separating plates are used where it is desired to disconnect a portion of line shaft for any great length of time. Where the connection between couplings is open so that plates may be easily removed, they are made in one piece. When shaft projects into opposite half of coupling, it is necessary that they be made split.

The following list prices are for plates made in one piece. They can be furnished split or made in two pieces at an increase of twenty-five per cent. When made split each half is tapped for a bolt to be used in removing it.

Price List

Size of Coupling, Inches	Thickness of Plate, Inches	List Prices	Size of Coupling, Inches	Thickness of Plate, Inches	List Prices	Size of Coupling, Inches	Thickness of Plate, Inches	List Prices
1 $\frac{3}{16}$	$\frac{3}{8}$	\$4.00	3 $\frac{3}{16}$	$\frac{1}{2}$	\$9.00	6 $\frac{7}{16}$	$\frac{3}{4}$	\$27.50
1 $\frac{7}{16}$	$\frac{3}{8}$	4.50	3 $\frac{7}{16}$	$\frac{1}{2}$	10.00	6 $\frac{15}{16}$	$\frac{3}{4}$	30.00
1 $\frac{11}{16}$	$\frac{3}{8}$	5.00	3 $\frac{11}{16}$	$\frac{1}{2}$	11.00	7 $\frac{7}{16}$	$\frac{3}{4}$	32.50
1 $\frac{15}{16}$	$\frac{3}{8}$	5.50	3 $\frac{15}{16}$	$\frac{1}{2}$	12.00	7 $\frac{15}{16}$	$\frac{3}{4}$	35.00
2 $\frac{3}{16}$	$\frac{3}{8}$	6.00	4 $\frac{1}{16}$	$\frac{5}{8}$	16.00	8 $\frac{7}{16}$	$\frac{3}{4}$	37.50
2 $\frac{7}{16}$	$\frac{3}{8}$	6.50	4 $\frac{15}{16}$	$\frac{5}{8}$	20.00	8 $\frac{15}{16}$	$\frac{3}{4}$	37.50
2 $\frac{11}{16}$	$\frac{1}{2}$	7.00	5 $\frac{7}{16}$	$\frac{5}{8}$	22.50	9 $\frac{7}{16}$	1	42.50
2 $\frac{15}{16}$	$\frac{1}{2}$	8.00	5 $\frac{15}{16}$	$\frac{5}{8}$	25.00	9 $\frac{15}{16}$	1	42.50

Universal Joint Couplings

Made in either single or double type. The single type is suitable for operating shafts intersecting at an angle not exceeding 20 degrees and the double type for an angle not exceeding 40 degrees. They are not suitable for high speed service.

These couplings are carefully finished, accurate in every detail and mechanically perfect. The trunnion pins are made of turned steel, and are a close fit in the arms of driving hubs to which they are keyed with taper pins held in place by nuts. The trunnion pins are a working fit in the trunnion block and a most satisfactory arrangement for lubricating is provided.

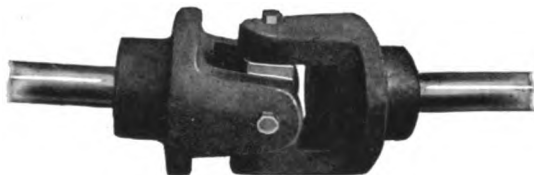


Fig. T-306

Price List

Shaft Sizes, Inches	Single Type			Double Type		
	List Prices	Dimensions in Inches		List Prices	Dimensions in Inches	
		Diameter	Length		Diameter	Length
1 $\frac{15}{16}$	\$ 70.00	8	13 $\frac{1}{2}$	\$140.00	8	20
2 $\frac{3}{16}$	75.00	8	14	150.00	8	21
2 $\frac{7}{16}$	80.00	9 $\frac{1}{4}$	15 $\frac{1}{2}$	160.00	9 $\frac{1}{4}$	23
2 $\frac{11}{16}$	85.00	9 $\frac{1}{4}$	16	170.00	9 $\frac{1}{4}$	24
2 $\frac{15}{16}$	95.00	10 $\frac{1}{2}$	17 $\frac{1}{2}$	190.00	10 $\frac{1}{2}$	26
3 $\frac{3}{16}$	105.00	10 $\frac{1}{2}$	18	210.00	10 $\frac{1}{2}$	27
3 $\frac{7}{16}$	120.00	12	19 $\frac{1}{2}$	240.00	12	29
3 $\frac{11}{16}$	130.00	12	20	260.00	12	30
3 $\frac{15}{16}$	150.00	14	22	300.00	14	33

Prices include keys. For reducing couplings, add 20 per cent to list of larger size.

Double Cone Compression Couplings

The strongest coupling of the compression type, made to transmit full capacity of shafts and an excellent substitute for a flange coupling particularly where facilities for properly fitting the latter are not available.

The two conical parts are bored slightly smaller than shaft size, slotted to allow the bore to adapt itself for a gripping fit and keyseated for use with straight keys. Each is turned to same taper on outside concentric with bore.

The shell is bored to match the cones, tapering from the center to each end, both tapers are alike and concentric with the same axis. It is also turned on outside diameter and faced on the ends which insures true running.

The rectangular slots inside of the shell and outside of the cones are provided to carry draw bolts, which, in addition to their function of drawing the cones together, act as keys between these parts. Bolt heads and nuts are protected by the shell extending beyond the cones at each end.

After placing the various parts of the coupling in position, the bolts are inserted and gradually tightened by drawing the nuts successively and repeatedly with equal tension on each.

In drawing up the bolts in this manner an equal pressure is exerted upon each of the cones, which are compressed by being drawn into the shell. This compression of the diameter of the cones causes a consequent contraction of the bores, thus each cone adapts itself to the shaft, and any variation in the exact sizes of the shafts does not distort their true alignment.

To detach couplings, remove the bolts and drive a wedge through opening in outer shell thus forcing the cones apart.

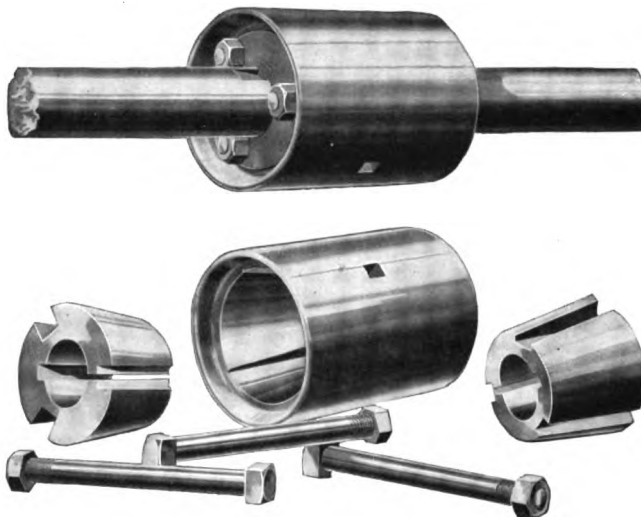
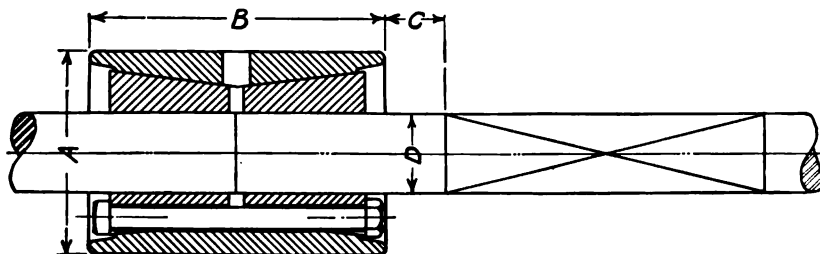


Fig. T-307



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches			Shaft Sizes, Inches	List Prices	Dimensions in Inches		
		A	B	C			A	B	C
1 ¹⁵ / ₁₆	\$9.00	5 ¹ / ₂	7 ⁷ / ₈	3	4 ¹⁵ / ₁₆	\$60.00	12 ¹ / ₄	18	7 ¹ / ₂
2 ³ / ₁₆	10.25	6	8 ⁵ / ₈	3 ³ / ₈	5 ⁷ / ₁₆	75.00	13 ¹ / ₄	19 ³ / ₄	8 ¹ / ₄
2 ⁷ / ₁₆	11.75	6 ⁵ / ₈	9 ¹ / ₂	3 ³ / ₄	5 ¹⁵ / ₁₆	95.00	14	21 ¹ / ₂	9
2 ¹¹ / ₁₆	14.00	7	10 ¹ / ₄	4 ¹ / ₈	6 ⁷ / ₁₆	120.00	15 ¹ / ₄	23 ¹ / ₄	9 ³ / ₄
2 ¹⁵ / ₁₆	17.50	7 ⁷ / ₈	11 ¹ / ₂	4 ¹ / ₂	6 ¹⁵ / ₁₆	150.00	16 ¹ / ₄	25	10 ¹ / ₂
3 ³ / ₁₆	21.00	8 ¹ / ₄	12 ¹ / ₄	4 ⁷ / ₈	7 ⁷ / ₁₆	185.00	17 ¹ / ₂	27	11 ¹ / ₄
3 ⁷ / ₁₆	24.00	9	13	5 ¹ / ₄	7 ¹⁵ / ₁₆	225.00	18 ¹ / ₂	29	12
3 ¹¹ / ₁₆	28.00	9 ⁵ / ₈	14 ¹ / ₄	5 ⁵ / ₈	8 ⁷ / ₁₆	270.00	20 ¹ / ₂	32	13 ¹ / ₂
3 ¹⁵ / ₁₆	33.00	10 ¹ / ₈	15	6	8 ¹⁵ / ₁₆	320.00	20 ¹ / ₂	32	13 ¹ / ₂
4 ¹ / ₁₆	45.00	11 ¹ / ₄	16 ¹ / ₂	6 ³ / ₄					

Prices include keys. For reducing couplings, add 20 per cent to list of larger size.

Ribbed Compression Couplings

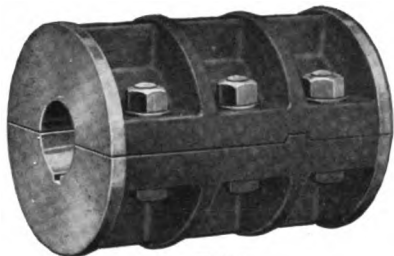


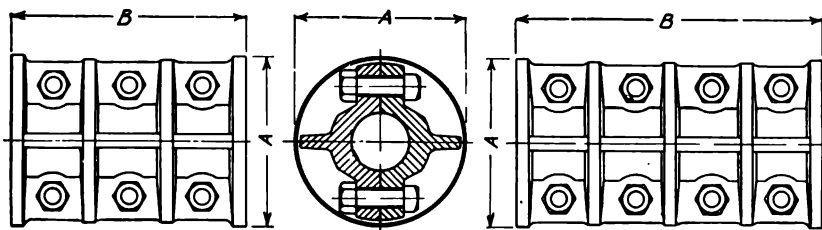
Fig. T-308

An exceptionally strong coupling. Correct design combined with the necessary metal properly distributed make it suitable for very severe service.

Coupling is bored true to shaft size, the halves being separated to allow for clamping when parts are drawn together. The end flanges are faced square with bore, and the outer diameters are turned. It is keyseated for a straight key, the latter being furnished of a square section.

Sizes $2\frac{1}{16}$ inches and smaller have six clamping bolts; larger sizes have eight. The bolt heads and nuts are protected by extended flanges.

If desired, these couplings may be supplied with protecting cover for which there is an additional charge.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches		Shaft Sizes, Inches	List Prices	Dimensions in Inches	
		A	B			A	B
$1\frac{3}{16}$	\$4.00	$4\frac{1}{8}$	$5\frac{1}{2}$	$2\frac{15}{16}$	\$13.50	$8\frac{3}{4}$	$11\frac{3}{4}$
$1\frac{7}{16}$	5.00	$4\frac{3}{4}$	$6\frac{1}{4}$	$3\frac{3}{16}$	16.50	$9\frac{1}{4}$	$12\frac{3}{4}$
$1\frac{11}{16}$	6.25	5	7	$3\frac{7}{16}$	20.00	10	$13\frac{3}{4}$
$1\frac{15}{16}$	7.50	6	$8\frac{1}{4}$	$3\frac{15}{16}$	30.00	$10\frac{5}{8}$	$14\frac{7}{8}$
$2\frac{3}{16}$	8.75	$6\frac{3}{8}$	$8\frac{7}{8}$	$4\frac{1}{16}$	40.00	12	$16\frac{1}{2}$
$2\frac{7}{16}$	10.25	$7\frac{1}{4}$	$9\frac{7}{8}$				
$2\frac{11}{16}$	11.75	$7\frac{1}{2}$	$10\frac{7}{8}$	$4\frac{15}{16}$	54.00	$13\frac{5}{8}$	$18\frac{1}{8}$

Prices include keys.

For reducing couplings, add 20 per cent to list of the larger size.

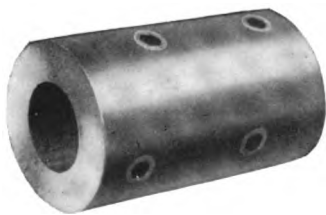


Fig. T-309

Solid Sleeve Couplings

This type of coupling gives very satisfactory service where a comparatively small amount of power is to be transmitted and speed is high.

The coupling is finished all over, bored a close fit for shaft and fitted with hollow set screws.

Price List

Shaft Sizes, Inches	List Prices	Outside Diameter, Inches	Length, Inches	Shaft Sizes, Inches	List Prices	Outside Diameter, Inches	Length, Inches
$1\frac{15}{16}$	\$3.25	2	3	$1\frac{15}{16}$	\$5.50	4	6
$1\frac{3}{16}$	3.50	$2\frac{1}{2}$	$3\frac{3}{4}$	$2\frac{3}{16}$	6.50	$4\frac{1}{2}$	$6\frac{3}{4}$
$1\frac{7}{16}$	4.00	3	$4\frac{1}{2}$	$2\frac{7}{16}$	7.50	5	$7\frac{1}{2}$
$1\frac{11}{16}$	4.50	$3\frac{1}{2}$	$5\frac{1}{4}$				

Universal Giant Compression Couplings

The Coupling That Requires No Keys



Fig. T-310

This coupling holds shafts in accurate alignment and without keys, transmits power through the sleeve which grips the shaft by friction. The parts used in the construction of this coupling are the taper sleeve, two flanges and the necessary bolts.

The sleeve is of sufficient strength to transmit the torsional stress. It is bored slightly smaller than shaft size, has reverse tapers turned on the outside and is slotted lengthwise. (See illustration.)

The compression flanges are bored to match tapers of sleeve and have the rims turned and edges faced. The bolts are subject to tensional stress only and are used for the purpose of drawing the flanges together to compress the sleeve against the shaft. The bolt heads and nuts are fully protected by the extension of the flanges.

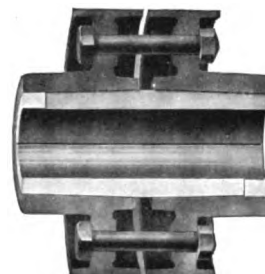
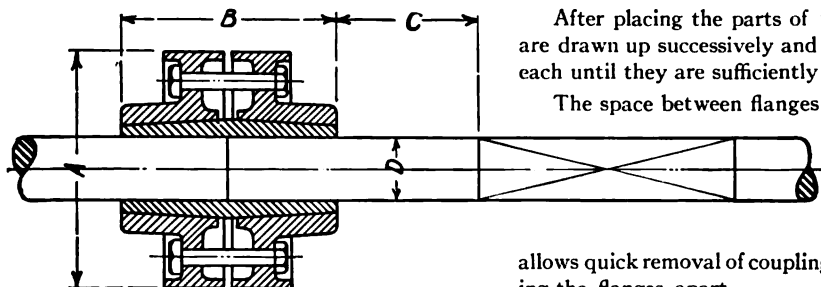


Fig. T-310A

Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches.			Shaft Sizes, Inches	List Prices	Dimensions in Inches		
		A	B	C			A	B	C
1 5/16	\$4.25	4 5/8	3 3/4	2	2 11/16	\$13.00	9 1/4	9 5/8	4 7/8
1 3/8	4.75	5 3/8	4 3/4	2 1/4	2 15/16	16.00	10	10 1/2	5 1/4
1 1/2	5.50	6 1/4	5 1/4	2 5/8	3 1/16	32.50	10 3/4	10 1/2	5 1/4
1 11/16	6.25	6 1/2	6 1/8	3 1/8	3 7/16	39.25	12	11 3/8	5 3/4
1 5/8	8.00	7 3/8	7	3 1/2	3 11/16	45.25	12 1/2	12 1/4	6 1/4
2 3/16	9.00	7 3/4	7 7/8	4	3 15/16	51.25	13	13	6 3/4
2 1/8	10.75	9	8 3/4	4 3/8					

For reducing couplings when sleeve is bored to fit the two shafts, add 20 per cent to list of the larger size.



After placing the parts of the coupling in position, the bolts are drawn up successively and repeatedly with equal tension on each until they are sufficiently firm.

The space between flanges can be measured with a rule or caliper and by keeping the flanges equi-distant an even positive grip and true running coupling is assured. The space between the two flanges also

allows quick removal of coupling by inserting a wedge and spreading the flanges apart.

Price List of Reducing Thimbles, also Universal Giant Compression Coupling Parts

Shaft Sizes, Inches	Straight Bore Sleeves	Reducing Sleeves	Reducing* Thimbles O. D. of Larger Shaft Size	Flanges Each	Bolts per Set	Wrenches Each
1 5/16	\$1.50	\$2.35	\$1.50	\$1.35	\$0.35	\$0.40
1 3/8	1.55	2.50	2.00	1.65	.40	.50
1 1/2	1.80	2.90	2.00	1.85	.50	.60
1 11/16	2.00	3.35	2.50	2.10	.50	.60
1 5/8	2.60	4.20	2.50	2.70	.60	.60
2 3/16	2.90	4.70	3.00	3.05	.60	.60
2 1/8	3.50	5.65	3.00	3.70	.80	.70
2 11/16	4.00	6.60	3.50	4.50	.85	.70
2 5/8	5.00	8.20	4.00	5.50	1.05	.70
3 3/16	10.50	17.00	7.00	11.75	1.30	.70
3 1/8	13.00	20.85	9.00	13.75	1.50	.80
3 1/2	16.50	25.50	11.50	15.50	1.80	.80
3 5/8	18.50	28.75	13.25	17.50	2.00	.80

*Reducing thimbles are made to fit standard size couplings, bored for reduction shaft size, and one-half of dimension B in length. List prices cover thimbles made not greater than one-half inch thick, bored and turned for the shaft sizes listed in this table only.

Nicholson Compression Couplings

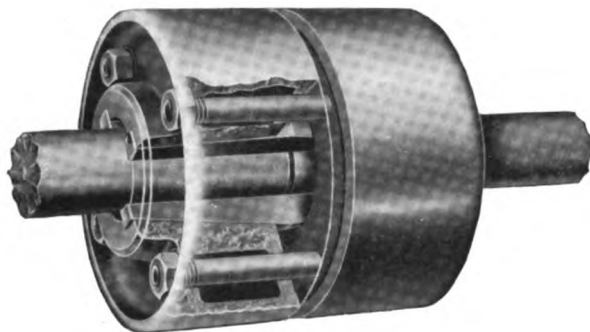


Fig. T-311

This coupling will not slip when operating under intermittent loads. It is of the keyless type which eliminates the necessity of keyseating shafts.

This coupling consists of several parts as illustrated (Fig. T-311A). Flanges are bored to match the tapers on the outside of jaws. They have turned rims with edges faced square and contain slots through which jaws pass holding them in position.

Jaws are made of steel having a double taper turned on outside conforming to taper bores of the flanges. They are machined concave on their bottom faces which come

in contact with shafts, the curve of concave being of a radius slightly less than the radius of the shaft. This latter feature insures a perfect grip of shafts including those that may be under size, and as two edges of each jaw have a "biting" contact with shafts it is impossible for the coupling to slip if properly applied.

The bolts are used for drawing flanges together causing the jaws to grip shafts tightly. All bolt heads and nuts are fully protected by extension of flanges.

These couplings are so constructed that when flanges are drawn sufficiently tight they will stand apart from one-half to one inch according to the size of shaft, and by keeping the space between flanges equidistant, an even positive grip and a true running coupling is assured.

Reducing couplings of this type are made by using flanges suitable for the larger size shaft fitted with jaws that accommodate the different diameters of shafts.

As an illustration—one-half of the length of jaw is finished to match the larger diameter shaft, the other half is finished to match the smaller diameter, and the outside surface is turned tapering to match taper bores of the flanges of standard coupling suitable for larger shaft.

Necessary wrenches are furnished without charge.



Fig. T-311A

Price List

Diameter Shaft, Inches	List Prices	Dimensions in Inches		Number of Jaws	Number of Bolts
		Length Overall	Diameter Coupling		
1 $\frac{3}{16}$	\$ 4.75	5 $\frac{1}{4}$	5 $\frac{1}{4}$	3	3
1 $\frac{7}{16}$	5.50	6 $\frac{1}{4}$	6 $\frac{1}{4}$	3	3
1 $\frac{11}{16}$	6.25	6 $\frac{3}{4}$	6 $\frac{7}{8}$	3	3
1 $\frac{15}{16}$	8.00	8	7 $\frac{3}{8}$	4	4
2 $\frac{3}{16}$	9.00	8 $\frac{1}{2}$	8 $\frac{1}{8}$	4	4
2 $\frac{7}{16}$	10.75	10	8 $\frac{7}{16}$	4	4
2 $\frac{11}{16}$	13.00	10 $\frac{1}{2}$	9 $\frac{5}{16}$	4	6
2 $\frac{15}{16}$	16.00	11 $\frac{3}{4}$	9 $\frac{7}{8}$	4	6
3 $\frac{3}{16}$	19.00	12 $\frac{3}{4}$	11 $\frac{1}{8}$	4	6
3 $\frac{7}{16}$	23.00	13 $\frac{1}{4}$	11 $\frac{1}{2}$	4	6
3 $\frac{15}{16}$	30.00	14 $\frac{1}{2}$	12 $\frac{3}{4}$	6	6
4 $\frac{7}{16}$	42.00	17 $\frac{1}{4}$	13 $\frac{5}{8}$	6	6
4 $\frac{15}{16}$	55.00	18	14 $\frac{7}{8}$	6	6
5 $\frac{7}{16}$	65.00	19 $\frac{3}{4}$	16 $\frac{1}{4}$	8	6
5 $\frac{15}{16}$	76.00	20 $\frac{3}{4}$	16 $\frac{3}{4}$	8	8
6 $\frac{7}{16}$	115.00	22 $\frac{3}{4}$	17 $\frac{1}{8}$	8	12
6 $\frac{15}{16}$	125.00	22 $\frac{3}{4}$	17 $\frac{3}{8}$	8	12

For reducing coupling, add 20 per cent to list of the larger size.

Shifting Jaw Clutch Couplings



Fig. T-312
Left Hand Spiral Jaw



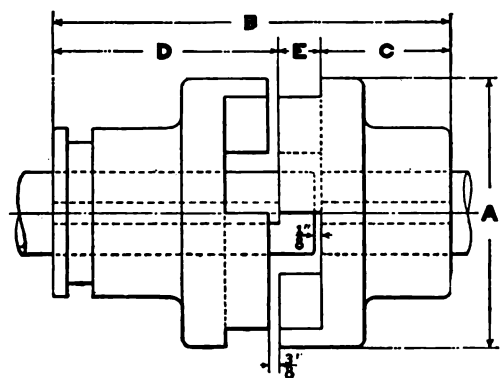
Fig. T-313
Standard Square Jaw



Fig. T-314
Right Hand Spiral Jaw

These couplings are finished all over. The jaws are accurately planed to prevent back lash and to insure equal bearing pressure on each.

The tight half of this coupling is bored slightly smaller than the shaft size and keyseated for a taper key. The shifting half is bored for a sliding fit and keyseated straight for free movement on feather key.



The shifting half is grooved and fitted with a thrust collar. It is preferable to attach the shifting half to the driven or smaller shaft.

In ordering spiral jaw couplings, it is necessary to specify whether right or left hand is required and in the case of reduction couplings of either square or spiral jaw types, bores should be specified for tight and shifting halves respectively.

List prices include keys, and shifting yoke and fulcrum (Fig. T-393), page 83.

Price List

Shaft Sizes, Inches	Dimensions in Inches					List Prices not Fitted to Shaft	Extra List Prices for Fitting to Shaft
	A	B	C	D	E		
1 ⁷ / ₁₆	5	7 ¹ / ₈	2 ¹ / ₄	4 ¹ / ₈	3 ³ / ₄	\$ 10.00	\$ 4.50
1 ¹¹ / ₁₆	5	7 ⁷ / ₈	2 ¹ / ₂	4 ⁵ / ₈	3 ³ / ₄	11.00	5.00
1 ¹⁵ / ₁₆	6 ¹ / ₂	9 ³ / ₈	3	5 ³ / ₈	1	13.00	5.50
2 ³ / ₁₆	6 ¹ / ₂	10	3 ¹ / ₄	5 ³ / ₄	1	14.50	6.00
2 ⁷ / ₁₆	8	11 ⁵ / ₈	3 ³ / ₄	6 ⁵ / ₈	1 ¹ / ₄	19.00	6.50
2 ¹¹ / ₁₆	8	12 ¹ / ₄	4	7	1 ¹ / ₄	22.00	7.50
2 ¹⁵ / ₁₆	9 ¹ / ₂	13 ⁷ / ₈	4 ¹ / ₂	7 ⁷ / ₈	1 ¹ / ₂	28.00	8.50
3 ³ / ₁₆	9 ¹ / ₂	14 ¹ / ₂	4 ³ / ₄	8 ¹ / ₄	1 ¹ / ₂	32.00	9.50
3 ⁷ / ₁₆	11	16 ¹ / ₈	5 ¹ / ₄	9 ¹ / ₈	1 ³ / ₄	38.00	10.50
3 ¹¹ / ₁₆	11	16 ³ / ₄	5 ¹ / ₂	9 ¹ / ₂	1 ³ / ₄	44.00	12.00
3 ¹⁵ / ₁₆	12 ¹ / ₂	18 ³ / ₈	6	10 ³ / ₈	2	52.00	13.50
4 ⁷ / ₁₆	14 ¹ / ₂	20 ⁵ / ₈	6 ³ / ₄	11 ⁵ / ₈	2 ¹ / ₄	65.00	15.00
4 ¹⁵ / ₁₆	14 ¹ / ₂	21 ⁷ / ₈	7 ¹ / ₄	12 ³ / ₈	2 ¹ / ₄	85.00	17.50
5 ⁷ / ₁₆	17 ¹ / ₂	24 ⁵ / ₈	8 ¹ / ₄	13 ⁵ / ₈	2 ³ / ₄	110.00	21.00
5 ¹⁵ / ₁₆	17 ¹ / ₂	26 ³ / ₈	8 ³ / ₄	14 ⁷ / ₈	2 ³ / ₄	140.00	25.00

For reducing couplings add, 20 per cent to list of the larger size.

Square or Spiral Jaw Clutches with Extended Sleeves for Pulleys, Sprockets and Gears

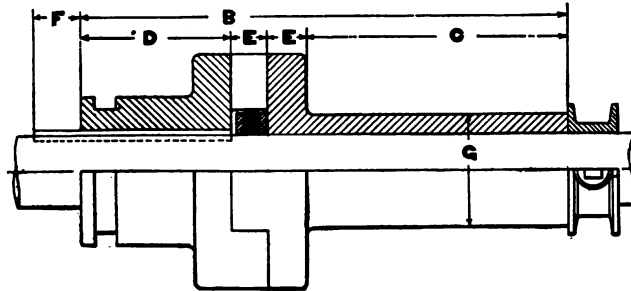


Fig. T-315

Sleeves with square jaws and mating clutches are finished all over. The jaws are accurately spaced by milling to insure equal bearing pressure on each. Sleeves with spiral jaws and mating clutches are finished all over with the exception of the spiral parts of jaws which are rough.

Shifting halves are accurately bored for shaft, keyseated, grooved and fitted with thrust collars. Sleeves have jaws cast integral. Internal collars are finished all over and fitted with two or more set screws.

List prices include sleeve, drilled and tapped for grease cups and keyseated on outside with clutch cast integral, internal collar and set collar, shifting half of clutch with thrust collar, feather key, shifter yoke and fulcrum (Fig. T-393), page 83.

Price List

Shaft Sizes, Inches	Dimensions in Inches						Price List Complete	Extra List Price for Each Additional Inch of Sleeve
	B	C	D	E	F	G		
1 $\frac{7}{16}$	10 $\frac{1}{2}$	6	3	$\frac{3}{4}$	1 $\frac{1}{8}$	2 $\frac{7}{16}$	\$15.00	\$1.10
1 $\frac{11}{16}$	12	7	3 $\frac{1}{2}$	$\frac{3}{4}$	1 $\frac{1}{8}$	2 $\frac{15}{16}$	16.50	1.30
1 $\frac{15}{16}$	14	8	4	1	1 $\frac{3}{8}$	2 $\frac{15}{16}$	20.00	1.30
2 $\frac{3}{16}$	15 $\frac{3}{8}$	9	4 $\frac{3}{8}$	1	1 $\frac{3}{8}$	3 $\frac{7}{16}$	22.50	1.40
2 $\frac{7}{16}$	17 $\frac{1}{2}$	10	5	1 $\frac{1}{4}$	1 $\frac{5}{8}$	3 $\frac{15}{16}$	30.00	1.50
2 $\frac{11}{16}$	18 $\frac{7}{8}$	11	5 $\frac{3}{8}$	1 $\frac{1}{4}$	1 $\frac{5}{8}$	4 $\frac{7}{16}$	34.50	1.70
2 $\frac{15}{16}$	21	12	6	1 $\frac{1}{2}$	1 $\frac{7}{8}$	4 $\frac{7}{16}$	42.00	1.70
3 $\frac{3}{16}$	22 $\frac{3}{8}$	13	6 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{7}{8}$	4 $\frac{15}{16}$	48.00	2.00
3 $\frac{7}{16}$	24 $\frac{1}{2}$	14	7	1 $\frac{3}{4}$	2 $\frac{1}{8}$	4 $\frac{15}{16}$	57.00	2.00
3 $\frac{11}{16}$	25 $\frac{7}{8}$	15	7 $\frac{3}{8}$	1 $\frac{3}{4}$	2 $\frac{1}{8}$	5 $\frac{7}{16}$	66.00	2.50
3 $\frac{15}{16}$	28	16	8	2	2 $\frac{3}{8}$	5 $\frac{7}{16}$	78.00	2.50

Belt Type Flexible Couplings

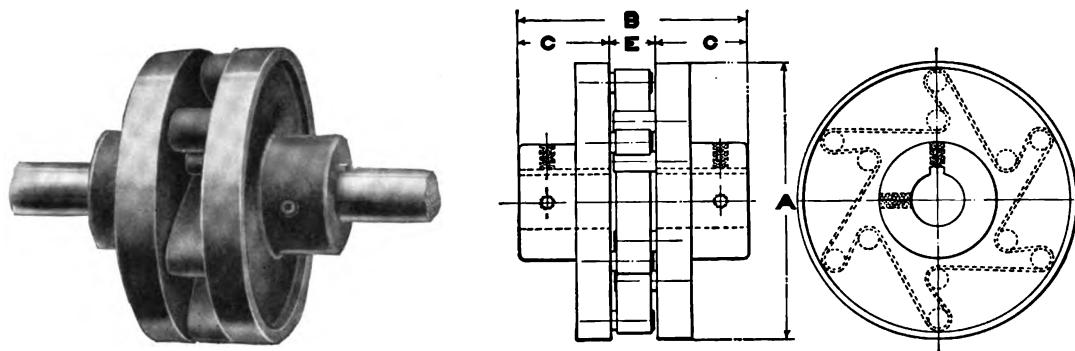


Fig. T-316

These couplings are made to withstand severe service, flexible in every direction and suitable for heavy shock loads and high speeds.

They are used principally to eliminate the necessity of keeping driven shaft in perfect alignment with that of the prime mover and will operate successfully between shafts, the axes of which do not intersect or are at an angle with each other.

The flanges are of cast iron properly finished, with revolving parts concentric to insure true running. They are bored and keyseated to suit driving and driven shafts for either slip or press fit. Straight keys with set screws over keyseat are furnished for slip fit and taper keys for press fit.

The pins in Type A are of turned steel and are pressed to place and rivetted. In Type B the pins are of cast iron integral with flanges. A flexible tanned leather belt of high tensile strength and elastic limit is used as the intermediate driving connection and acts as an insulation between the two halves.

The horse power ratings given in table are maximum at 100 revolutions per minute, for service under normal conditions and steady load, and are proportionate at any number of revolutions up to a peripheral speed of 5,000 feet per minute. For intermittent loads or comparatively high starting torque, due allowance must be made when using these ratings.

Orders must specify diameters of driving and driven shafts respectively and also whether slip or press fit is desired.

Price List

Shaft Sizes, Inches	H.P. at 100 R.P.M.	Maximum Bores, Inches	List Prices	Dimensions in Inches							
				Type A Steel Pins				Type B Cast-Iron Pins Integral with Flanges			
				A	B	C	E	A	B	C	E
1 $\frac{3}{16}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	\$20.00	7 $\frac{1}{4}$	6 $\frac{1}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{8}$	7 $\frac{3}{4}$	6 $\frac{1}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{8}$
1 $\frac{1}{16}$	5	1 $\frac{3}{4}$	24.50	8 $\frac{5}{8}$	6 $\frac{7}{8}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	8 $\frac{7}{8}$	6 $\frac{7}{8}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$
1 $\frac{1}{16}$	7	2	29.50	9 $\frac{1}{2}$	7 $\frac{5}{8}$	3	1 $\frac{5}{8}$	10	7 $\frac{5}{8}$	3	1 $\frac{5}{8}$
1 $\frac{1}{16}$	10	2 $\frac{1}{2}$	35.00	10	8 $\frac{1}{4}$	3 $\frac{5}{16}$	1 $\frac{5}{8}$	10 $\frac{3}{4}$	8 $\frac{1}{4}$	3 $\frac{5}{16}$	1 $\frac{5}{8}$
2 $\frac{3}{16}$	14	2 $\frac{3}{4}$	41.00	11	8 $\frac{7}{8}$	3 $\frac{5}{8}$	1 $\frac{5}{8}$	11 $\frac{1}{2}$	8 $\frac{7}{8}$	3 $\frac{5}{8}$	1 $\frac{5}{8}$
2 $\frac{1}{16}$	20	3 $\frac{1}{4}$	48.00	12	9 $\frac{5}{8}$	3 $\frac{7}{8}$	1 $\frac{7}{8}$	12 $\frac{1}{2}$	9 $\frac{5}{8}$	3 $\frac{7}{8}$	1 $\frac{7}{8}$
2 $\frac{1}{16}$	27	4	58.00	13 $\frac{3}{4}$	10 $\frac{3}{8}$	4 $\frac{1}{8}$	2 $\frac{1}{8}$	14	10 $\frac{3}{8}$	4 $\frac{1}{8}$	2 $\frac{1}{4}$
2 $\frac{1}{16}$	35	4 $\frac{3}{4}$	70.00	14 $\frac{7}{8}$	11 $\frac{1}{8}$	4 $\frac{3}{8}$	2 $\frac{3}{8}$	15 $\frac{3}{8}$	11 $\frac{1}{8}$	4 $\frac{3}{4}$	2 $\frac{3}{8}$
3 $\frac{1}{16}$	55	6 $\frac{1}{2}$	95.00	17 $\frac{1}{4}$	11 $\frac{7}{8}$	4 $\frac{3}{4}$	2 $\frac{3}{8}$	17 $\frac{3}{8}$	11 $\frac{7}{8}$	4 $\frac{3}{4}$	2 $\frac{3}{4}$
3 $\frac{1}{16}$	80	7 $\frac{1}{2}$	130.00	19 $\frac{3}{4}$	13 $\frac{3}{4}$	5 $\frac{7}{16}$	2 $\frac{7}{8}$	20 $\frac{1}{4}$	13 $\frac{3}{4}$	5 $\frac{7}{16}$	2 $\frac{7}{8}$
4 $\frac{1}{16}$	115	9	180.00	22 $\frac{3}{8}$	17	7 $\frac{1}{16}$	2 $\frac{7}{8}$	23 $\frac{3}{4}$	17	7 $\frac{1}{16}$	2 $\frac{7}{8}$
4 $\frac{1}{16}$	160	11	250.00	25 $\frac{5}{8}$	18 $\frac{1}{4}$	7 $\frac{1}{16}$	3 $\frac{3}{8}$	26	18 $\frac{1}{4}$	7 $\frac{1}{16}$	3 $\frac{3}{8}$

Prices include keys. Couplings bored for slip fit are furnished with straight keys, unless otherwise specified.

Francke Flexible Couplings—Laminated Steel Pin Type

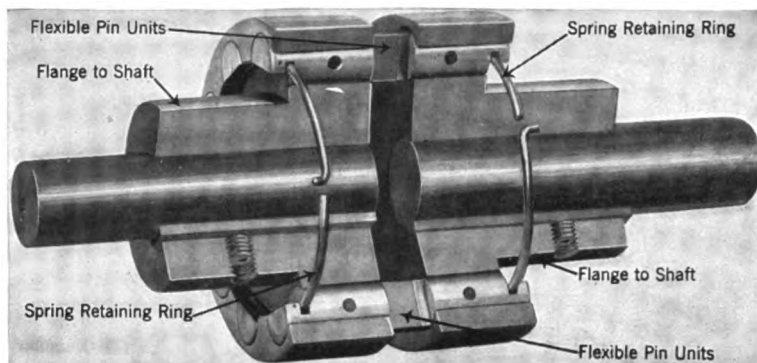


Fig. T-317

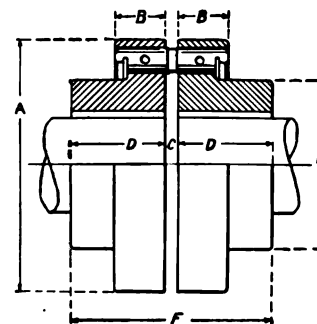


Fig. T-317A

These couplings consist of two cast-iron or steel flanges connected by flexible laminated steel pins instead of rigid bolts.

Each flexible unit consists of a bundle of flat steel springs held flexibly and radially in keepers. One end of each spring has an elongated hole, allowing easy end-wise slide in this keeper. The other end of each spring has a round hole and pivots about a small cross pin.

The flexible pins act as laminated beams, doing part of the driving and providing independently for misalignment. The elongated holes allow for endwise float. All springs pivot on keeper cross pins and each spring can bend between supports.

The flat of the spring is held radially and each keeper is held from moving by a snap ring at each end fitting into a continuous groove formed by a cross cut in the keepers and an under cut in the back of each flange.

These couplings are used principally for direct connecting motive power to driven machines. They will compensate for the usual misalignments of operation, thoroughly absorb vibration and act as cushions for shocks.

The clearance between flanges should be limited by collars on both shafts to make $C = \frac{1}{2}$ inch normal. The flexible pins will slide to allow float to $\frac{3}{8}$ inch minimum or $\frac{5}{8}$ inch maximum spacing. Coupling should not be installed or operated close to either limit for the reason that stress may be produced that will break or force the retaining rings out of position.

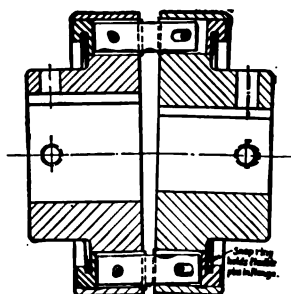


Fig. T-317B
Shafts Out of Line

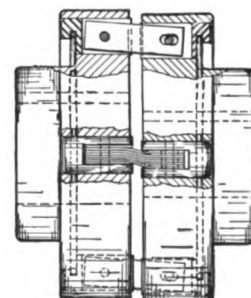


Fig. T-317C
Shafts Out of Center

SMALL POWER—LIGHT DUTY

Not over 5 H. P. nor over 2000 R. P. M.

These Couplings have no hubs.

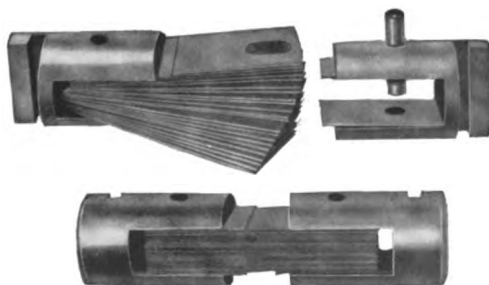


Fig. T-317D
Illustrating pin construction

Size No.	Max. Bore	H.P. per 100 R.P.M.	Max. R.P.M.	List Price	Dimensions in Inches				
					A	B	C		
							Min.	Normal	Max.
M	$\frac{3}{4}$	Up to $\frac{1}{3}$	2000	\$18.00	$2\frac{7}{16}$	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
N	$1\frac{1}{4}$	" " $\frac{1}{2}$	2000	21.00	$2\frac{15}{16}$	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
O	$1\frac{1}{4}$	" " $\frac{1}{2}$	2000	19.00	$2\frac{15}{16}$	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
P	$1\frac{5}{8}$	" " $1\frac{1}{3}$	2000	23.00	$3\frac{1}{2}$	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Q	$1\frac{5}{8}$	" " $\frac{2}{3}$	2000	20.00	$3\frac{1}{2}$	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
R	2	" " 2	2000	29.00	4	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
S	2	" " 1	2000	26.00	4	$1\frac{1}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
T	$2\frac{1}{4}$	" " $2\frac{3}{4}$	2000	35.00	$4\frac{1}{2}$	$1\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
U	$2\frac{1}{4}$	" " $1\frac{3}{8}$	2000	30.00	$4\frac{1}{2}$	$1\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$



Francke Flexible Couplings—Laminated Steel Pin Type

HEAVY PATTERN COUPLINGS

Use cast iron couplings for all conditions up to maximum revolutions per minute listed. Use steel couplings only if speed is greater than listed cast iron limit.

Cast Iron					Steel		Dimensions in Inches								Aver. Ship. Wt. Pounds
Size No.	Max. Bore, Inches	H.P. per 100 R.P.M.	Max. R.P.M.	List Price	Max. R.P.M.	List Price	A	B	C			D	E Max.	F normal C = 1/2 Inches	
									Min.	Normal	Max.				
3½	¾	Up to 1½	4000	\$23.00	10000	\$29.00	3½	1¾	¾	½	⅝	2 ⅞	1 11/16	4 7/8	8
4	1¼	" " 2	4000	29.00	10000	39.00	4	1½	¾	½	⅝	2 ⅞	2 1/16	5 1/8	11
4½	1½	" " 2½	4000	35.00	10000	45.00	4½	1 7/8	¾	½	⅝	2 ¾	2 1/8	5 1/4	13
5	1⅝	" " 3¼	3500	45.00	8500	56.00	5	1 7/8	¾	½	⅝	2 ¾	3	5 3/8	18
6	2	" " 6½	3100	53.00	7600	79.00	6	1 7/8				2 ½	3 3/4	5 5/8	30
7	2½	" " 9	2500	63.00	6400	95.00	7	1 7/8				2 1/8	4 3/4	6 1/8	40
8½	3	" " 28	2150	83.00	5400	135.00	8½	1¾	Note for All Sizes. Set to run at normal spacing of 1/2 inch. The coupling will float to minimum and maximum limits given. Do not set to run close to either limit.			3 ¾	5 1/2	7 5/8	70
9½	3¾	" " 45	1950	95.00	4850		9½	1¾				3 11/16	6 3/4	8 3/8	100
10	3½	" " 65	1800	105.00	4600		10	2 3/8				3 1/8	6 1/8	8 3/4	115
12	4½	" " 91	1500	145.00	3800		12	2 3/8				4 1/8	8 1/4	9 3/8	180
15	6	" " 145	1200	200.00	3000	Prices quoted upon Application	15	2 3/8				5 1/8	11	11 1/8	350
18	7¾	" " 210	1000	280.00	2500		18	2 3/8				6 1/8	13 3/4	13 7/8	500
22	10	" " 300	800	405.00	2000		22	2 3/8				8 3/8	17 1/2	16 7/8	800
23	8½	" " 500	800	490.00	2000		23	3 1/2				8 1/4	15	17	1050
24	8	" " 750	750	550.00	1900		24	4 3/4				9	14	18 1/2	1300
27	10	" " 1000	700	650.00	1700		27	4 3/4				11	17	22 1/2	1650
33	12	" " 2500	575	1050.00	1400		33	5 3/4	¾	½	⅝	13	20	26 1/2	3000

Directions for Selecting Proper Size Couplings

1. Select the smallest coupling whose maximum listed bore is sufficient for the largest shaft to be connected.

2. Reduce load to terms of H.P. per 100 R.P.M. (Torque) by dividing given H. P. by the R.P.M. and multiplying by 100.

3. Multiply H.P. per 100 R.P.M. obtained in (2) by the factor for kind of load as given in table below. This is *important*. The result is listed *H.P. per 100 R.P.M.* of coupling required.

4. Compare the result of (3) with listed H.P. per 100 R.P.M. of the size selected by (1) and if greater, use a coupling with rated capacity of at least the H.P. obtained by 3.

5. Use cast-iron couplings up to R.P.M. listed. If R.P.M. are higher than listed, use steel coupling.

EXAMPLES

Motor to blower. Shafts 2 1/4 ins. and 2 3/4 ins. 75 H.P. at 1100 R.P.M.

By (1) No. 8½ is required.

By (2) $\frac{75 \times 100}{1100} = 6.8$ H.P. per 100 R.P.M.

By (3) $6.8 \times 1 1/2$ (factor) = 10.2 H. P. per 100 R.P.M.

By (4) Compare with rating of No. 8½—satisfactory for 10.2 H.P.

By (5) R.P.M. is less than listing of 2150 R.P.M. maximum for cast iron. Therefore, No. 8½ cast iron Heavy Pat. is satisfactory.

Gas Engine to Single Cylinder Compressor.

Shafts 10 inches and 9 inches.

180 H.P. at 165 R.P.M.

By (1) No. 22 is required.

By (2) $\frac{180 \times 100}{165} = 109$ H.P. per 100 R.P.M.

By (3) Factor = 6 + 5 (Compressor and Gas Engine) $109 \times 11 = 1199$ H.P. per 100 R.P.M.

By (4) No. 22 is too small and No. 33 is required.

By (5) R.P.M. is less than listing of 575 R.P.M. maximum for cast iron.

Therefore, No. 33 cast iron Heavy Pattern, is satisfactory.

FACTORS FOR VARIOUS MACHINES Kind of Apparatus	Factor
Steam turbine pumps, blowers or other smooth load.....	1 1/4
Turbo generators, motor generators.....	1 1/2
Motor driven pumps, blowers or other smooth load.....	1 1/2
Motor driven wood working machinery, shafting.....	2
Motor driven grinders, conveyors, screens, beaters, with no pulsation.....	2
Motor driven crushers, tube mills, veneer hogs.....	4
Gas or Steam engines with flywheel, to smooth load.....	3—5
Engine driven fans, engine mine fans.....	8
Compressors (single cylinder), motor driven.....	6
Rolling mills, steel, rubber or brass.....	4
Motor mine hoists, elevators, cranes, screw downs.....	4

For suddenly applied or pulsating loads operating under more severe conditions than covered by factors, figure maximum peak load or maximum turning effort (or load difference if quick reversal of torque) and multiply by 2 to compare with listed horse power of coupling, which is for steady torque.

The horse power ratings given are at 100 revolutions per minute and are based on static torque. For each kind of load it is necessary to use a factor in selecting the coupling to be used. The factors in the table are based on wide experience and may be depended upon.

Prices include finished straight bore, as required both ends, keyways and set screws, and standard length as given.

Extra length at small extra charge. For standard taper bore 1 inch in 6 inches, add 5 per cent for each end so bored.

For quotation and in ordering, please specify:

1. Number required.
2. Size number.
3. Bores, both ends.
4. Keyways, both ends.
5. Horse power (normal and maximum).
6. Revolutions per minute.
7. Kind of machines connected.

Universal Giant Patented Ring Oiling Ball and Socket Hangers, Post Hangers and Pillow Blocks

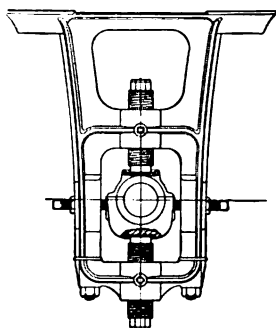


Fig. T-318

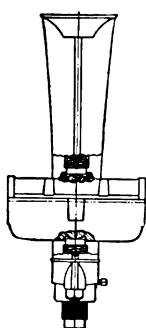


Fig. T-318A

The Universal Giant line of hangers and pillow blocks meet modern requirements for obtaining efficiency in the erection, maintenance and operation of shafting for the mechanical transmission of power.

They possess the unique feature of combining a ball and socket movement of bearing with a most satisfactory method of vertical and lateral adjustment, within the frame. Parts are interchangeable and standardized to give maximum efficiency.

All parts are of sufficient weight to absorb vibration and safely resist shock loads, and the metal is distributed to produce the greatest strength at points of greatest stress.

Bearings are susceptible of movement in any direction, giving universal adjustment, ball and socket action

and absolutely free alignment with shaft. Necessary corrections in alignment due to settling of building or irregularity of supports are taken care of by adjustment of the bearing within the frame without moving or changing position of hanger.

The above features, particularly that of procuring ball and socket movement of bearing in combination with lateral adjustment of same upon stationary cast iron plungers, will be made clear by referring to line drawings on this page, and the following:

The bearing is supported and vertical adjustment is provided by machine cut, square thread, cast iron plungers, which also act as guides for the bearing in its lateral movements.

Top and bottom surfaces of the bearing housing that come in contact with flat ends of supporting plungers are sections of a cylinder, the axis of which is at right angles to and intersects the axis of the shaft at center of bearing.

The bearing may be raised or lowered by adjusting plungers until it is brought to its correct vertical position. It is then free to be moved laterally by adjusting side screws, or if the side screws are kept out of contact with bearing, it is free to move automatically in a lateral direction, and in addition it is also in position to perform its function of universal adjustment.

After bearing has been adjusted to its correct position, both vertically and laterally, the cylindrical surfaces allow it to literally roll between the ends of the vertical plungers without causing binding or straining of any kind upon the bearing or its supports. It will be noted, this freedom of bearing action allows it to adjust itself instantly and automatically to any angularity of shaft due to deflection, or it is free to maintain its correct position on the shaft should the hanger footing twist or turn.

The range of vertical and lateral adjustment of drop hangers each side of center is respectively 1 inch and $\frac{3}{8}$ inch.

By means of elongated slots in sides of drop hanger frame, the lateral adjusting screws are permitted to follow the bearing in its movements vertically, and thus bear at all times approximately at the level of shaft center.

In bracket hangers, post hangers and pillow blocks, the vertical adjustment is not as great as in the drop hangers, and it is therefore not necessary to mount the side screws in slots, as the screws in a fixed position will always have contact with bearing at a point not far from the level of shaft center.

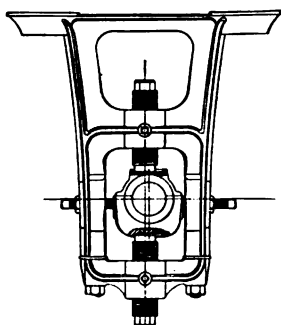


Fig. T-318C

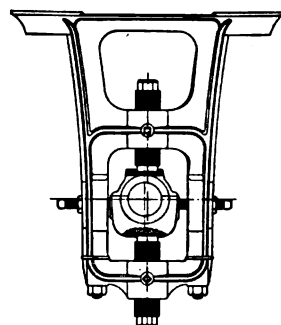


Fig. T-318B

Bearings For Universal Giant Hangers

All bearings for Universal Giant hangers are lined with a grade of babbitt metal of sufficient hardness to obtain desirable anti-friction qualities and of such a mixture as will allow it to readily conform to shaft without heating. They are machined accurately to size and ends are faced.

These hanger bearings can be placed in or taken from hanger or pillow block frames in a direction longitudinally with shaft, which is of great convenience when it is desired to remove bearings from a line shaft for the purpose of cleaning. This feature is also an advantage in erecting line shafting, as in many cases it is unnecessary to remove the yoke from hanger frame.

Lengths of all types of bearings are given in table, page 23.

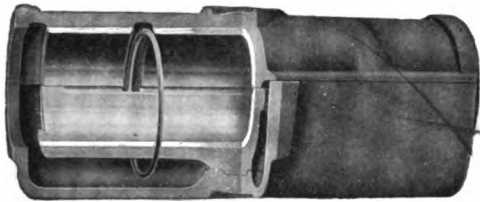


Fig. T-319

Ring Oiling Bearings

Fig. T-319 is accepted as the safest and most efficient shaft bearing to operate under all conditions and has been adopted as our standard to be furnished on all orders unless otherwise specified.

The rings used are made of spring steel, tempered, and will retain perfect shape. Permanent wipers are used to return surplus oil to reservoir, insuring a constant supply to be used over and over again.

The bottom of the oil reservoir is flat. This construction not only prevents bearing overturning when out of frame but also eliminates depressions for oil rings which fill with sediment and interfere with their free working. In these bearings the oil is the same level the full length of reservoir.

Chain Oiling Bearings

Fig. T-320 is of the same general design and dimensions and may be supplied at same price as the ring oiling type (Fig. T-319), when required.

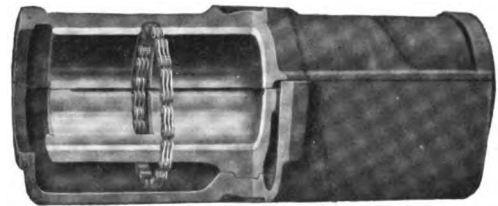


Fig. T-320

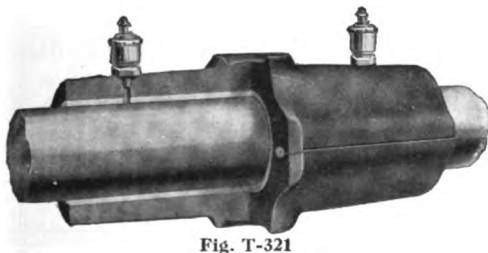


Fig. T-321

Plain Bearing for use with Grease Cups

Fig. T-321 is furnished if grease is to be used as a lubricant. It is practically dust-proof, being fitted with a round wick full length of joint at each side.

Price is the same as for Ring Oiling Bearing (Fig. T-319).

Short Length Ring Oiling Bearings

For special requirements short length single ring bearings for use with hangers and pillow blocks illustrated can be supplied.

Price is the same as for standard ring oiling bearing (Fig. T-319).

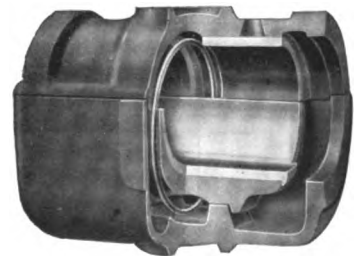


Fig. T-322

Bearings for Universal Giant Hangers

Collar End Bearings



Fig. T-323

These bearings can be supplied single or double end, either ring or chain oiling type (Fig. T-319 and T-320).

When furnished with hangers (Fig. T-330 and T-332) solid collars listed on page 8 are required. When furnished with other hangers and adjustable pillow blocks illustrated, special collars are necessary, and these are supplied at a special discount from solid collar list, page 8.

Extra List Prices for Double Collar End Bearings to be Added to List Prices of Hangers							
Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices
1 ¹⁵ / ₁₆	\$2.50	2 ¹⁵ / ₁₆	\$3.80	3 ¹⁵ / ₁₆	\$6.25	5 ¹⁵ / ₁₆	\$10.00
2 ³ / ₁₆	2.75	3 ³ / ₁₆	4.20	4 ⁷ / ₁₆	7.00	6 ⁷ / ₁₆	11.00
2 ⁷ / ₁₆	3.00	3 ⁷ / ₁₆	4.75	4 ¹⁵ / ₁₆	8.00	6 ¹⁵ / ₁₆	12.00
2 ¹¹ / ₁₆	3.40	3 ¹¹ / ₁₆	5.50	5 ⁷ / ₁₆	9.00		

Above prices do not include collars.

Closed End Bearings

Fig. T-324 may be supplied in the ring or chain oiling types (Fig. T-319, T-320 and T-322) and are intended to be used in counter shaft service only.



Fig. T-324

Extra List Prices for Closed End Bearings to be Added to List Prices of Hangers							
Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices
1 ³ / ₁₆	\$.50	2 ³ / ₁₆	\$.80	3 ³ / ₁₆	\$1.30	3 ¹⁵ / ₁₆	\$1.80
1 ⁷ / ₁₆	.55	2 ⁷ / ₁₆	.90	3 ⁷ / ₁₆	1.45	4 ⁷ / ₁₆	2.20
1 ¹¹ / ₁₆	.60	2 ¹¹ / ₁₆	1.00	3 ¹¹ / ₁₆	1.60	4 ¹⁵ / ₁₆	2.60
1 ¹⁵ / ₁₆	.70	2 ¹⁵ / ₁₆	1.15				

Above prices are for each bearing—not per pair.

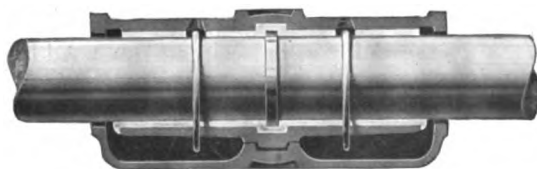


Fig. T-325

Recessed Bearings for Concealed Fast Collars

Bearings of this type are for use with hangers (Fig. T-330 and T-332), also ball and socket pillow blocks (Fig. T-342).

Extra List Prices for Recessed Bearings to be Added to List Prices of Headshaft Hangers							
Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices
1 ¹⁵ / ₁₆	\$.70	2 ¹⁵ / ₁₆	\$1.15	3 ¹⁵ / ₁₆	\$1.80	5 ¹⁵ / ₁₆	\$3.75
2 ³ / ₁₆	.80	3 ³ / ₁₆	1.30	4 ⁷ / ₁₆	2.20	6 ⁷ / ₁₆	4.50
2 ⁷ / ₁₆	.90	3 ⁷ / ₁₆	1.45	4 ¹⁵ / ₁₆	2.60	6 ¹⁵ / ₁₆	5.25
2 ¹¹ / ₁₆	1.00	3 ¹¹ / ₁₆	1.60	5 ⁷ / ₁₆	3.00		

Above prices do not include collars.



Bearings for Universal Giant Hangers

Bearings with Dust-Proof Ends

When bearings are required for use in dusty or dirty places they are supplied with felt washers, secured at each end of bearing by plates which are held in position by counter-sunk slotted head screws.

Extra List Prices for Making Bearings Dust Proof

Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices	Shaft Sizes, Inches	List Prices
$1\frac{5}{16}$ to $1\frac{1}{4}$	\$3.00	$2\frac{7}{16}$ to $2\frac{3}{4}$	\$4.80	$3\frac{15}{16}$ to 4	\$6.90	$6\frac{7}{16}$ to 7	\$12.00
$1\frac{7}{16}$ " $1\frac{3}{4}$	3.60	$2\frac{9}{16}$ " $3\frac{1}{4}$	5.40	$4\frac{1}{16}$ " 5	8.40	$7\frac{1}{16}$ " 8	15.00
$1\frac{9}{16}$ " $2\frac{1}{4}$	4.20	$3\frac{1}{16}$ " $3\frac{3}{4}$	6.00	$5\frac{7}{16}$ " 6	10.00		

Lengths of Hanger Bearings in Inches

Shaft Sizes, Inches	Fig. T-319, T-320, T-323 and T-325 for Extra Heavy Head Shaft Hangers.	Fig. T-319, T-320, T-323 and T-325 for Universal Giant Head Shaft Hangers.	Fig. T-319, T-320 and T-324 for Universal Giant Hangers and Pillow Blocks.	Fig. T-323 for Universal Giant Hangers and Pillow Blocks.	Fig. T-322 for Universal Giant Hangers and Pillow Blocks.	Fig. T-321 for Universal Giant Hangers and Pillow Blocks.	Distance from Center of Bearing to Outside End of Shaft—Fig. T-324 for Universal Giant Hangers and Pillow Blocks.
$1\frac{5}{16}$			$5\frac{1}{8}$	$5\frac{1}{8}$	4	$5\frac{1}{8}$	2
$1\frac{7}{16}$			$5\frac{3}{8}$	$5\frac{3}{8}$	4	$5\frac{3}{8}$	2
$1\frac{9}{16}$			$6\frac{1}{8}$	$6\frac{1}{8}$	$4\frac{1}{2}$	$6\frac{1}{8}$	$2\frac{3}{4}$
$1\frac{11}{16}$			$7\frac{1}{8}$	$7\frac{1}{8}$	$4\frac{1}{2}$	$7\frac{1}{8}$	$3\frac{1}{8}$
$1\frac{13}{16}$			$8\frac{1}{4}$	$8\frac{1}{4}$	5	$8\frac{1}{8}$	$3\frac{1}{2}$
$2\frac{1}{16}$		$10\frac{3}{4}$					
$2\frac{3}{16}$		$11\frac{3}{8}$	$9\frac{1}{4}$	$9\frac{1}{4}$	5	$9\frac{1}{8}$	4
$2\frac{5}{16}$		$12\frac{3}{8}$	$10\frac{3}{8}$	$10\frac{3}{8}$	$6\frac{7}{8}$	$10\frac{3}{8}$	$4\frac{1}{2}$
$2\frac{7}{16}$		$13\frac{3}{8}$	$11\frac{3}{8}$	$11\frac{3}{8}$	$6\frac{7}{8}$	$11\frac{3}{8}$	5
$2\frac{9}{16}$		$14\frac{3}{8}$	$12\frac{3}{8}$	$12\frac{3}{8}$	$7\frac{3}{4}$	$12\frac{3}{8}$	$5\frac{1}{2}$
$2\frac{11}{16}$		$15\frac{3}{8}$	$13\frac{3}{8}$	$13\frac{3}{8}$	$7\frac{3}{4}$	$12\frac{1}{2}$	6
$3\frac{1}{16}$							
$3\frac{3}{16}$		$16\frac{3}{8}$	$14\frac{3}{8}$	$14\frac{3}{8}$	$8\frac{1}{2}$	13	$6\frac{1}{2}$
$3\frac{5}{16}$		$17\frac{3}{8}$	$15\frac{3}{8}$	$15\frac{3}{8}$	$8\frac{1}{2}$	$13\frac{1}{2}$	7
$3\frac{7}{16}$	$18\frac{3}{8}$	$18\frac{3}{8}$	$16\frac{3}{8}$	$16\frac{3}{8}$	$9\frac{1}{2}$	14	$7\frac{1}{2}$
$3\frac{9}{16}$	20	$20\frac{3}{8}$	$18\frac{3}{8}$	$18\frac{3}{8}$	$10\frac{5}{8}$	15	$8\frac{3}{8}$
$3\frac{11}{16}$	20		$20\frac{3}{8}$	$20\frac{3}{8}$	$10\frac{5}{8}$	16	$9\frac{3}{8}$
$4\frac{1}{16}$							
$5\frac{7}{16}$	24						
$6\frac{7}{16}$	24						
$6\frac{13}{16}$	26						
$7\frac{7}{16}$	28						
$7\frac{13}{16}$	28						

The bearings illustrated are interchangeable with Universal Giant drop hangers, post hangers and adjustable pillow blocks.

A letter is cast upon all Universal Giant hanger and pillow block frames indicating the sizes of bearings to be used. The following table explains this feature and serves as a key to list prices used for intermediate shaft sizes:

Shaft Size or Bore in Inches			Symbol of Frames* for U. G. Bearings	Symbol of Frames* for U. G. Headshaft Bearings	Shaft Size or Bore in Inches			Symbol of Frames* for U. G. Bearings	Symbol of Frames* for U. G. Headshaft Bearings
Odd Sizes	Even Sizes	Regular Listed Sizes			Odd Sizes	Even Sizes	Regular Listed Sizes		
$1\frac{5}{16}$ to $1\frac{1}{4}$ in. incl. same as			A		$3\frac{13}{16}$ to 4 in. incl. same as		$3\frac{15}{16}$	G	H
$1\frac{7}{16}$ " $1\frac{1}{2}$ " "			B		$4\frac{1}{16}$ " $4\frac{1}{2}$ " "		$4\frac{7}{16}$	H	H
$1\frac{9}{16}$ " $1\frac{3}{4}$ " "			B		$4\frac{9}{16}$ " 5 " "		$4\frac{15}{16}$	H	
$1\frac{11}{16}$ " 2 " "			C	D	$5\frac{1}{16}$ " $5\frac{1}{2}$ " "		$5\frac{7}{16}$		
$2\frac{1}{16}$ " $2\frac{1}{4}$ " "			C	D	$5\frac{9}{16}$ " 6 " "		$5\frac{13}{16}$		
$2\frac{3}{16}$ " $2\frac{1}{2}$ " "			D	E	$6\frac{1}{16}$ " $6\frac{1}{2}$ " "		$6\frac{7}{16}$		
$2\frac{5}{16}$ " $2\frac{3}{4}$ " "			D	E	$6\frac{9}{16}$ " 7 " "		$6\frac{15}{16}$		
$2\frac{7}{16}$ " 3 " "			E	F	$7\frac{1}{16}$ " $7\frac{1}{2}$ " "		$7\frac{7}{16}$		
$3\frac{1}{16}$ " $3\frac{1}{4}$ " "			E	F	$7\frac{9}{16}$ " 8 " "		$7\frac{15}{16}$		
$3\frac{3}{16}$ " $3\frac{1}{2}$ " "			F	G					
$3\frac{5}{16}$ " $3\frac{3}{4}$ " "			F	G					

*Drop hanger, bracket hanger, post hanger, and pillow block frames.

NOTE—Head shaft bearings may be used in Universal Giant bracket hanger, post hanger, and pillow block frames, the same as in drop hanger frames.

Universal Giant Patented Adjustable Ring Oiling Ball and Socket Drop Hangers

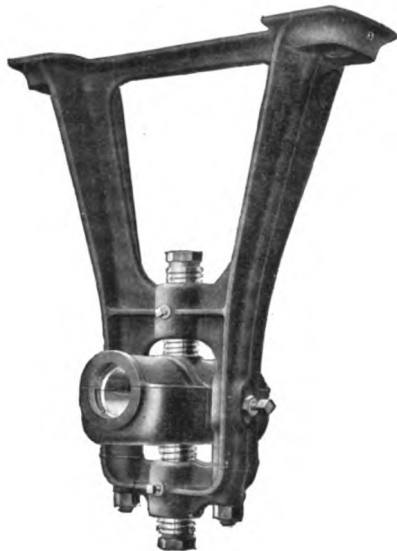
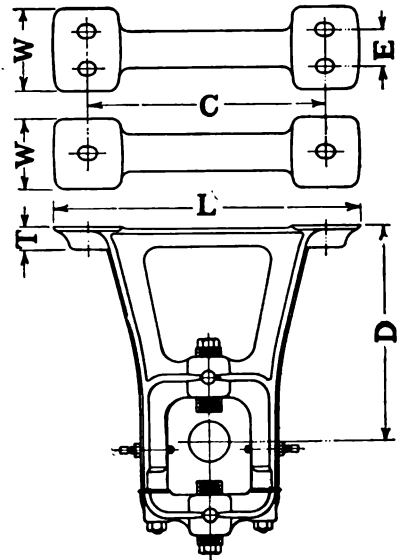


Fig. T-326

These hangers are designed and constructed on scientific principles involving unique adjusting and practical power saving features. The ball and socket movement of the bearing combined with the vertical and lateral adjustment within the frame makes the alignment of the shaft a simple and inexpensive operation. Detailed description is given on page 20.

Ring oiling bearings (Fig. T-319) are furnished unless orders specify other types in which case they must be shipped from the factory.



Price List

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches							Bolts Required
			Length Bearings	D Drop	L	W	T	C	E	
A	1 $\frac{3}{16}$	\$4.60	5 $\frac{1}{8}$	7—9	12	3 $\frac{1}{2}$	1	8 $\frac{5}{8}$		2— $\frac{7}{16}$
		5.00		10—12	13 $\frac{5}{8}$	3 $\frac{1}{2}$	1	10 $\frac{3}{16}$		2— $\frac{7}{16}$
		5.40		13—15	15 $\frac{1}{4}$	4	1	11 $\frac{3}{4}$		2— $\frac{7}{16}$
		5.90		16—18	16 $\frac{7}{8}$	4 $\frac{1}{2}$	1	13 $\frac{3}{8}$		2— $\frac{7}{16}$
		6.40		19—21	18 $\frac{1}{2}$	5	1	15		2— $\frac{7}{16}$
B	1 $\frac{7}{16}$	5.20	6 $\frac{1}{8}$	7—9	13 $\frac{1}{4}$	4	1 $\frac{1}{8}$	9 $\frac{1}{2}$		2— $\frac{5}{8}$
		5.60		10—12	14 $\frac{3}{8}$	4	1 $\frac{1}{8}$	10 $\frac{5}{8}$		2— $\frac{5}{8}$
		6.20		13—15	15 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{8}$	11 $\frac{13}{16}$		2— $\frac{5}{8}$
		6.70		16—18	16 $\frac{11}{16}$	5	1 $\frac{1}{8}$	13		2— $\frac{5}{8}$
		7.40		19—21	17 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{8}$	14 $\frac{3}{16}$		2— $\frac{5}{8}$
		8.25		23—25	22	6	1 $\frac{1}{4}$	18	2 $\frac{1}{2}$	4— $\frac{5}{8}$
B	1 $\frac{11}{16}$	5.70	7 $\frac{1}{4}$	7—9	13 $\frac{1}{4}$	4	1 $\frac{1}{8}$	9 $\frac{1}{2}$		2— $\frac{5}{8}$
		6.10		10—12	14 $\frac{3}{8}$	4	1 $\frac{1}{8}$	10 $\frac{5}{8}$		2— $\frac{5}{8}$
		6.70		13—15	15 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{8}$	11 $\frac{13}{16}$		2— $\frac{5}{8}$
		7.20		16—18	16 $\frac{11}{16}$	5	1 $\frac{1}{8}$	13		2— $\frac{5}{8}$
		7.90		19—21	17 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{8}$	14 $\frac{3}{16}$		2— $\frac{5}{8}$
		8.75		23—25	22	6	1 $\frac{1}{4}$	18	2 $\frac{1}{2}$	4— $\frac{5}{8}$
C	1 $\frac{15}{16}$	7.25	8 $\frac{1}{4}$	7—9	14 $\frac{15}{16}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	10 $\frac{15}{16}$		2— $\frac{5}{8}$
		7.75		10—12	16 $\frac{3}{16}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	12 $\frac{3}{16}$		2— $\frac{5}{8}$
		8.35		13—15	17 $\frac{3}{8}$	5	1 $\frac{1}{4}$	13 $\frac{7}{16}$		2— $\frac{5}{8}$
		9.00		16—18	18 $\frac{5}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{4}$	14 $\frac{5}{8}$		2— $\frac{5}{8}$
		9.75		19—21	19 $\frac{7}{8}$	6	1 $\frac{1}{4}$	15 $\frac{7}{8}$		2— $\frac{5}{8}$
		10.50		23—25	26	6 $\frac{1}{2}$	1 $\frac{1}{2}$	21 $\frac{11}{16}$	3	4— $\frac{5}{8}$
		13.50		28—30	30	7	1 $\frac{1}{2}$	25 $\frac{3}{4}$	3	4— $\frac{5}{8}$
C	2 $\frac{3}{16}$	8.25	9 $\frac{1}{4}$	7—9	14 $\frac{15}{16}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	10 $\frac{15}{16}$		2— $\frac{5}{8}$
		8.75		10—12	16 $\frac{3}{16}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	12 $\frac{3}{16}$		2— $\frac{5}{8}$
		9.35		13—15	17 $\frac{3}{8}$	5	1 $\frac{1}{4}$	13 $\frac{7}{16}$		2— $\frac{5}{8}$
		10.00		16—18	18 $\frac{5}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{4}$	14 $\frac{5}{8}$		2— $\frac{5}{8}$
		10.75		19—21	19 $\frac{7}{8}$	6	1 $\frac{1}{4}$	15 $\frac{7}{8}$		2— $\frac{5}{8}$
		11.50		23—25	26	6 $\frac{1}{2}$	1 $\frac{1}{2}$	21 $\frac{11}{16}$	3	4— $\frac{5}{8}$
		14.50		28—30	30	7	1 $\frac{1}{2}$	25 $\frac{3}{4}$	3	4— $\frac{5}{8}$



Price List—Continued

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches							Bolts Required
			Length Bearings	D Drop	L	W	T	C	E	
D	2 1/16	\$10.20	10 3/8	7—9	16 5/8	5 1/2	1 3/8	12 3/16		2— 3/4
		11.00		10—12	17 7/8	5 1/2	1 3/8	13 7/16		2— 3/4
		12.00		13—15	19 1/8	6	1 3/8	14 11/16		2— 3/4
		13.00		16—18	20 3/8	6 1/2	1 3/8	15 7/8		2— 3/4
		14.00		19—21	21 5/8	6 3/4	1 3/8	17 1/8		2— 3/4
		15.50		23—25	26 5/8	7 1/2	1 1/2	22 1/8	3	4— 3/4
		18.50		28—30	30	8	1 1/2	25 1/2	3	4— 3/4
		22.00		34—36	34	8 1/2	1 1/2	29 1/2	3	4— 3/4
D	2 1/16	11.45	11 3/8	7—9	16 5/8	5 1/2	1 3/8	12 3/16		2— 3/4
		12.25		10—12	17 7/8	5 1/2	1 3/8	13 7/16		2— 3/4
		13.25		13—15	19 1/8	6	1 3/8	14 11/16		2— 3/4
		14.25		16—18	20 3/8	6 1/2	1 3/8	15 7/8		2— 3/4
		15.25		19—21	21 5/8	6 3/4	1 3/8	17 1/8		2— 3/4
		16.75		23—25	26 5/8	7 1/2	1 1/2	22 1/8	3	4— 3/4
		19.75		28—30	30	8	1 1/2	25 1/2	3	4— 3/4
		23.25		34—36	34	8 1/2	1 1/2	29 1/2	3	4— 3/4
E	2 5/16	14.50	12 5/16	7—9	18 3/8	6	1 1/2	13 3/16		2— 7/8
		15.50		10—12	19 9/16	6 3/8	1 1/2	14 3/4		2— 7/8
		17.00		13—15	20 7/8	6 3/4	1 1/2	15 7/8		2— 7/8
		18.50		16—18	22 1/6	7	1 1/2	17 1/8		2— 7/8
		20.00		19—21	23 1/4	7 1/2	1 1/2	18 3/8		2— 7/8
		21.50		23—25	28 5/16	8	1 5/8	23 3/8	3 1/4	4— 3/4
		25.00		28—30	31 13/16	8 1/2	1 5/8	26 7/8	3 1/4	4— 3/4
		29.00		34—36	36	9	1 5/8	31 1/16	3 1/4	4— 3/4
E	3 3/16	16.00	13 5/16	7—9	18 3/8	6	1 1/2	13 3/16		2— 7/8
		17.00		10—12	19 9/16	6 3/8	1 1/2	14 3/4		2— 7/8
		18.50		13—15	20 7/8	6 3/4	1 1/2	15 7/8		2— 7/8
		20.00		16—18	22 1/6	7	1 1/2	17 1/8		2— 7/8
		21.50		19—21	23 1/4	7 1/2	1 1/2	18 3/8		2— 7/8
		23.00		23—25	28 5/16	8	1 5/8	23 3/8	3 1/4	4— 3/4
		26.50		28—30	31 13/16	8 1/2	1 5/8	26 7/8	3 1/4	4— 3/4
		30.50		34—36	36	9	1 5/8	31 1/16	3 1/4	4— 3/4
F	3 7/16	22.50	14 5/16	10—12	21 1/2	6 1/2	1 3/4	16 1/4	3 1/4	4— 7/8
		24.00		13—15	22 1/2	7	1 3/4	17	3 1/4	4— 7/8
		25.50		16—18	23 1/2	7 1/2	1 3/4	18	3 1/4	4— 7/8
		27.00		19—21	24 1/2	8	1 3/4	19	3 1/4	4— 7/8
		29.50		23—25	29 1/2	8 1/2	1 3/4	24	4	4— 7/8
		33.00		28—30	32 1/2	9	1 3/4	27	4	4— 7/8
		37.00		34—36	36	9 1/2	1 3/4	30 1/2	4	4— 7/8
F	3 11/16	24.50	15 5/16	10—12	21 1/2	6 1/2	1 3/4	16 1/4	3 1/4	4— 7/8
		26.00		13—15	22 1/2	7	1 3/4	17	3 1/4	4— 7/8
		27.50		16—18	23 1/2	7 1/2	1 3/4	18	3 1/4	4— 7/8
		29.00		19—21	24 1/2	8	1 3/4	19	3 1/4	4— 7/8
		31.50		23—25	29 1/2	8 1/2	1 3/4	24	4	4— 7/8
		35.00		28—30	32 1/2	9	1 3/4	27	4	4— 7/8
		39.00		34—36	36	9 1/2	1 3/4	30 1/2	4	4— 7/8
G	3 15/16	29.00	16 3/8	10—12	23 1/2	7	2	17 1/2	3 1/4	4—1
		31.00		13—15	24 1/2	7 1/2	2	18 1/2	3 1/4	4—1
		33.00		16—18	25 1/2	8	2	19 1/2	3 1/4	4—1
		35.50		19—21	26 1/2	8 1/2	2	20 1/2	3 1/4	4—1
		38.50		23—25	30 1/4	9	2	24 1/4	4 1/2	4—1
		42.00		28—30	33	9 1/2	2	27	4 1/2	4—1
		47.00		34—36	36	10	2	30	4 1/2	4—1
H	4 1/16	40.00	18 3/16	10—12	26 3/4	8	2 1/4	20 1/2	3 1/2	4—1 1/8
		43.00		13—15	28 1/4	8 1/2	2 1/4	22 1/4	3 1/2	4—1 1/8
		46.00		16—18	30	9	2 1/4	23 3/4	3 1/2	4—1 1/8
		49.00		19—21	31 1/2	9 1/2	2 1/4	25 3/8	5	4—1 1/8
		54.00		23—25	33 3/4	10	2 1/4	27 1/2	5	4—1 1/8
		60.00		28—30	36 1/2	10 1/2	2 1/4	30	6	4—1 1/8
		70.00		34—36	39 1/2	11	2 1/4	33 1/4	6	4—1 1/8
H	4 15/16	45.00	20 9/16	10—12	26 3/4	8	2 1/4	20 1/2	3 1/2	4—1 1/8
		48.00		13—15	28 1/4	8 1/2	2 1/4	22 1/4	3 1/2	4—1 1/8
		51.00		16—18	30	9	2 1/4	23 3/4	3 1/2	4—1 1/8
		54.00		19—21	31 1/2	9 1/2	2 1/4	25 3/8	5	4—1 1/8
		59.00		23—25	33 3/4	10	2 1/4	27 1/2	5	4—1 1/8
		65.00		28—30	36 1/2	10 1/2	2 1/4	30	6	4—1 1/8
		75.00		34—36	39 1/2	11	2 1/4	33 1/4	6	4—1 1/8

Universal Giant Patented Adjustable Ring Oiling Ball and Socket Post Hangers

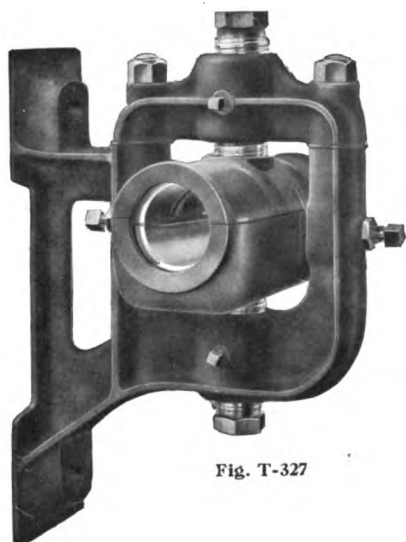
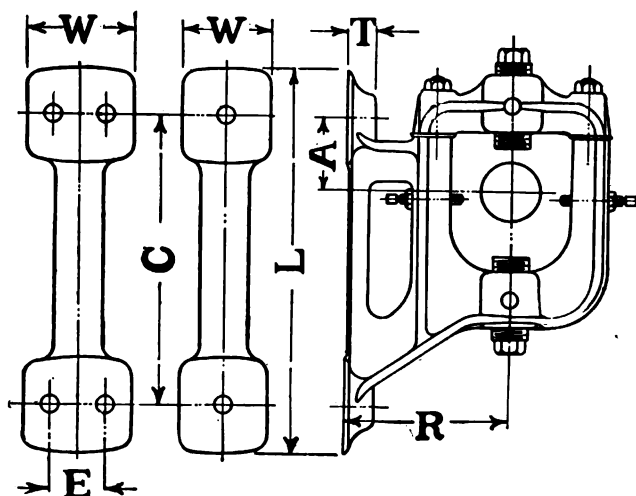


Fig. T-327



Universal Giant Post Hangers embody the adjusting features as described on page 20.

They can be inverted when necessary, as the yoke is the same as used on regular Universal Giant Drop Hangers.

Ring oiling bearings (Fig. T-319) are furnished unless orders specify other types in which case they must be shipped from factory.

Price List

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches								Bolts Required
			Length Bearings	R Reach	L	W	T	A	C	E	
A	1 $\frac{3}{16}$	\$5.00	5 $\frac{1}{8}$	5 $\frac{7}{8}$	11 $\frac{1}{4}$	3	1	2 $\frac{1}{4}$	8 $\frac{1}{4}$	....	2— $\frac{7}{16}$
B	1 $\frac{7}{16}$	5.60	6 $\frac{1}{8}$	5 $\frac{7}{8}$	14 $\frac{1}{4}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	10 $\frac{5}{16}$	....	2— $\frac{1}{2}$
	1 $\frac{11}{16}$	6.10	7 $\frac{1}{4}$	5 $\frac{7}{8}$	14 $\frac{3}{4}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	10 $\frac{5}{16}$	....	2— $\frac{1}{2}$
C	1 $\frac{5}{16}$	7.25	8 $\frac{1}{4}$	6 $\frac{3}{8}$	15 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	11 $\frac{1}{8}$	....	2— $\frac{5}{8}$
	2 $\frac{3}{16}$	8.25	9 $\frac{1}{4}$	6 $\frac{3}{8}$	15 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	11 $\frac{1}{8}$	....	2— $\frac{5}{8}$
D	2 $\frac{7}{16}$	11.00	10 $\frac{3}{8}$	7 $\frac{3}{8}$	18 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	13 $\frac{3}{4}$	....	2— $\frac{3}{4}$
	2 $\frac{1}{2}$	12.25	11 $\frac{3}{8}$	7 $\frac{3}{8}$	18 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	13 $\frac{3}{4}$	....	2— $\frac{3}{4}$
E	2 $\frac{15}{16}$	16.00	12 $\frac{5}{16}$	8 $\frac{3}{8}$	20 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	15 $\frac{3}{4}$	....	2— $\frac{7}{8}$
	3 $\frac{3}{16}$	17.50	13 $\frac{5}{16}$	8 $\frac{3}{8}$	20 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	15 $\frac{3}{4}$	....	2— $\frac{7}{8}$
F	3 $\frac{7}{16}$	24.00	14 $\frac{5}{16}$	10	22 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	16 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
	3 $\frac{11}{16}$	26.00	15 $\frac{5}{16}$	10	22 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	16 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
G	3 $\frac{15}{16}$	32.00	16 $\frac{3}{8}$	12	25 $\frac{1}{2}$	7	2	4 $\frac{7}{8}$	19	2 $\frac{3}{4}$	4—1
H	4 $\frac{7}{16}$	48.00	18 $\frac{3}{16}$	14	29 $\frac{1}{2}$	8 $\frac{3}{8}$	2 $\frac{1}{4}$	6 $\frac{1}{4}$	22 $\frac{1}{4}$	3 $\frac{1}{2}$	4—1 $\frac{1}{8}$
	4 $\frac{15}{16}$	53.00	20 $\frac{9}{16}$	14	29 $\frac{1}{2}$	8 $\frac{3}{8}$	2 $\frac{1}{4}$	6 $\frac{1}{4}$	22 $\frac{1}{4}$	3 $\frac{1}{2}$	4—1 $\frac{1}{8}$

Universal Giant Patented Adjustable Ring Oiling Ball and Socket Pillow Blocks

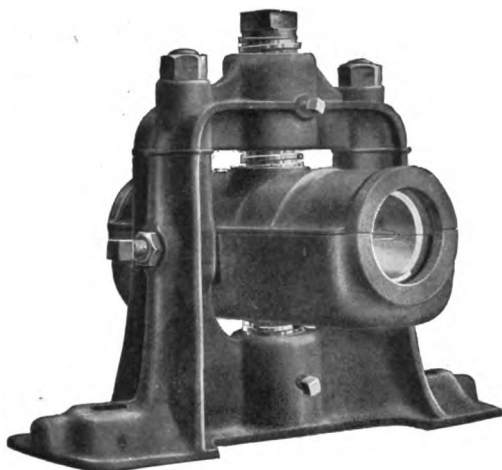
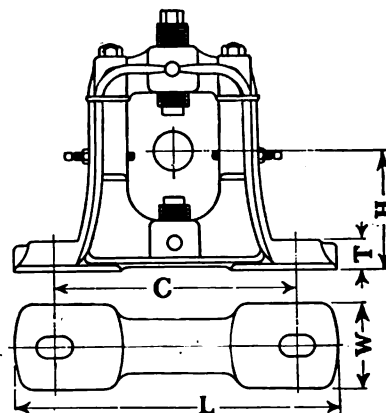


Fig. T-328



Universal Giant Pillow Blocks embody the adjusting features described on page 20.

The feature of lateral adjustment obtained on stationary supporting plungers makes this pillow block in many cases preferable to the ordinary combination of rigid pillow block and adjustable base plate.

A short drop hanger is obtained by using this frame with inverted bearing.

Ring oiling bearings (Fig. T-319) are furnished unless orders specify other types, in which case they must be shipped from factory

Price List

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches							Bolts Required
			Length Bearings	H		L	W	T	C	
				Height	Drop					
				Pillow Block	Short Hanger					
A	1 $\frac{3}{16}$	\$4.60	5 $\frac{1}{8}$	3 $\frac{7}{8}$	3 $\frac{1}{2}$	10 $\frac{3}{8}$	2 $\frac{3}{4}$	1	7 $\frac{13}{16}$	2— $\frac{7}{16}$
B	1 $\frac{7}{16}$	5.20	6 $\frac{1}{8}$	5 $\frac{1}{8}$	4 $\frac{5}{8}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	9	2— $\frac{1}{2}$
	1 $\frac{11}{16}$	5.70	7 $\frac{1}{4}$	5 $\frac{1}{8}$	4 $\frac{1}{2}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	9	2— $\frac{1}{2}$
C	1 $\frac{15}{16}$	7.00	8 $\frac{1}{4}$	5 $\frac{7}{16}$	4 $\frac{15}{16}$	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	10 $\frac{1}{4}$	2— $\frac{5}{8}$
	2 $\frac{3}{16}$	8.00	9 $\frac{1}{4}$	5 $\frac{7}{16}$	4 $\frac{13}{16}$	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	10 $\frac{1}{4}$	2— $\frac{5}{8}$
D	2 $\frac{7}{16}$	10.20	10 $\frac{3}{8}$	6 $\frac{5}{8}$	5 $\frac{7}{8}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	12	2— $\frac{3}{4}$
	2 $\frac{11}{16}$	11.45	11 $\frac{3}{8}$	6 $\frac{5}{8}$	5 $\frac{3}{4}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	12	2— $\frac{3}{4}$
E	2 $\frac{15}{16}$	15.00	12 $\frac{5}{16}$	6 $\frac{7}{8}$	6 $\frac{1}{8}$	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	13 $\frac{5}{16}$	2— $\frac{7}{8}$
	3 $\frac{3}{16}$	16.50	13 $\frac{5}{16}$	6 $\frac{7}{8}$	6	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	13 $\frac{5}{16}$	2— $\frac{7}{8}$
F	3 $\frac{7}{16}$	22.50	14 $\frac{5}{16}$	8	7 $\frac{1}{4}$	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	15 $\frac{5}{16}$	2—1
	3 $\frac{11}{16}$	24.50	15 $\frac{5}{16}$	8	7 $\frac{1}{8}$	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	15 $\frac{5}{16}$	2—1
G	3 $\frac{15}{16}$	28.50	16 $\frac{3}{8}$	8 $\frac{1}{2}$	7 $\frac{1}{2}$	24	8	1 $\frac{3}{4}$	17 $\frac{1}{4}$	2—1 $\frac{1}{8}$
H	4 $\frac{7}{16}$	40.00	18 $\frac{3}{16}$	10	8 $\frac{7}{8}$	25 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	20 $\frac{1}{2}$	2—1 $\frac{1}{4}$
	4 $\frac{15}{16}$	45.00	20 $\frac{9}{16}$	10	8 $\frac{3}{4}$	25 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	20 $\frac{1}{2}$	2—1 $\frac{1}{4}$

Universal Giant Patented Ring Oiling Ball and Socket Bracket Hangers

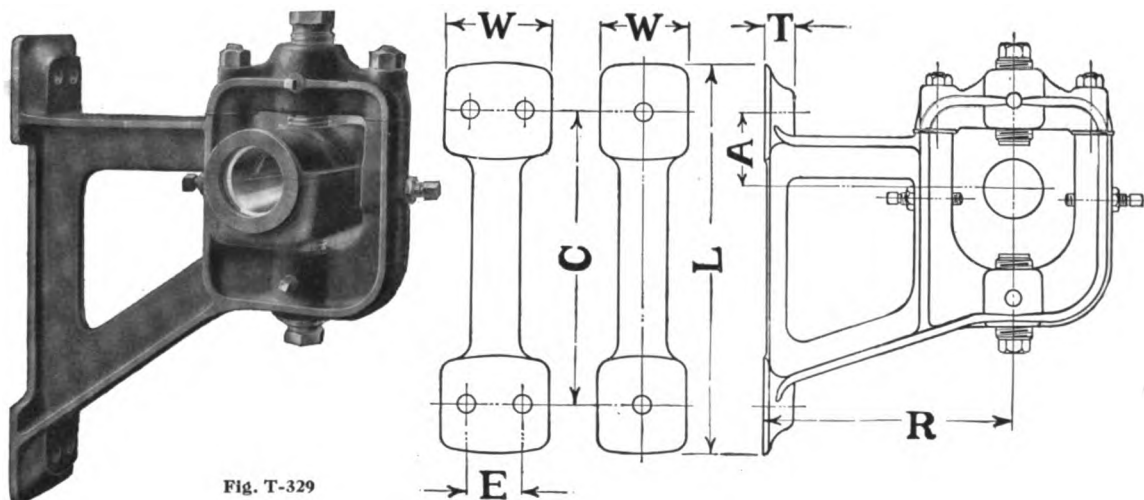


Fig. T-329

Universal Giant Bracket Hangers embody the adjusting features described on page 20.

They are designed for use in place of pillow block and wall bracket combination to support shafting carrying large diameter pulleys and are most suitable to maintain a fixed distance from supports to shaft center where a line shaft is composed of different diameters. All sizes are made with standard reaches.

Ring oiling bearings (Fig. T-319) are furnished unless orders specify other types in which case they must be shipped from the factory.

Price List

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches								Bolts Required
			Length Bearings	R Reach	L	W	T	A	C	E	
B	1 $\frac{7}{16}$	\$7.20	6 $\frac{1}{8}$	10	16 $\frac{13}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	12 $\frac{7}{8}$	....	2— $\frac{1}{2}$
		7.60		12	18 $\frac{1}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	14 $\frac{1}{8}$	....	2— $\frac{1}{2}$
		8.00		14	19 $\frac{5}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	15 $\frac{3}{8}$	....	2— $\frac{1}{2}$
		8.40		16	20 $\frac{9}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	16 $\frac{5}{8}$	....	2— $\frac{1}{2}$
		8.90		18	21 $\frac{13}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	17 $\frac{7}{8}$	....	2— $\frac{1}{2}$
B	1 $\frac{11}{16}$	7.70	7 $\frac{1}{4}$	10	16 $\frac{13}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	12 $\frac{7}{8}$	....	2— $\frac{1}{2}$
		8.10		12	18 $\frac{1}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	14 $\frac{1}{8}$	....	2— $\frac{1}{2}$
		8.50		14	19 $\frac{5}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	15 $\frac{3}{8}$	....	2— $\frac{1}{2}$
		8.90		16	20 $\frac{9}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	16 $\frac{5}{8}$	....	2— $\frac{1}{2}$
		9.40		18	21 $\frac{13}{16}$	4	1 $\frac{1}{8}$	2 $\frac{1}{2}$	17 $\frac{7}{8}$	....	2— $\frac{1}{2}$
C	1 $\frac{15}{16}$	9.50	8 $\frac{1}{4}$	10	17 $\frac{5}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	13 $\frac{5}{8}$	....	2— $\frac{5}{8}$
		10.00		12	18 $\frac{1}{4}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	14 $\frac{1}{4}$	....	2— $\frac{5}{8}$
		10.50		14	19 $\frac{7}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	15 $\frac{3}{8}$	....	2— $\frac{5}{8}$
		11.00		16	21	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	17	....	2— $\frac{5}{8}$
		11.75		18	22 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	18 $\frac{1}{8}$	....	2— $\frac{5}{8}$
		12.50		20	23 $\frac{1}{4}$	5 $\frac{1}{4}$	1 $\frac{1}{4}$	3	19 $\frac{1}{4}$	....	2— $\frac{3}{4}$
		13.60		24	25 $\frac{1}{2}$	5 $\frac{1}{4}$	1 $\frac{1}{4}$	3	21 $\frac{1}{2}$	....	2— $\frac{3}{4}$



Universal Giant Patented Ring Oiling Ball and Socket Bracket Hangers

Price List—Continued

Frame Symbols	Shaft Sizes, Inches	List Prices	Length Bearings, Inches	R Reach, Inches	Dimensions in Inches						Bolts Required
					L	W	T	A	C	E	
C	2 $\frac{3}{16}$	\$10.50	9 $\frac{1}{4}$	10	17 $\frac{5}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	13 $\frac{5}{8}$		2— $\frac{5}{8}$
		11.00		12	18 $\frac{1}{4}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	14 $\frac{1}{4}$		2— $\frac{5}{8}$
		11.50		14	19 $\frac{7}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	15 $\frac{7}{8}$		2— $\frac{5}{8}$
		12.00		16	21	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	17		2— $\frac{5}{8}$
		12.75		18	22 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{4}$	3	18 $\frac{1}{8}$		2— $\frac{5}{8}$
		13.50		20	23 $\frac{1}{4}$	5 $\frac{1}{4}$	1 $\frac{1}{4}$	3	19 $\frac{1}{4}$		2— $\frac{3}{4}$
		14.60		24	25 $\frac{1}{2}$	5 $\frac{1}{4}$	1 $\frac{1}{4}$	3	21 $\frac{1}{2}$		2— $\frac{3}{4}$
D	2 $\frac{7}{16}$	14.40	10 $\frac{3}{8}$	10	20 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	15 $\frac{3}{4}$		2— $\frac{3}{4}$
		15.00		12	21 $\frac{1}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	16 $\frac{5}{8}$		2— $\frac{3}{4}$
		15.60		14	22 $\frac{1}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	18 $\frac{1}{4}$		2— $\frac{3}{4}$
		16.30		16	24 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	19 $\frac{3}{4}$		2— $\frac{3}{4}$
		17.00		18	25 $\frac{7}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	21		2— $\frac{3}{4}$
		17.90		20	26 $\frac{1}{16}$	6	1 $\frac{3}{8}$	3 $\frac{7}{16}$	22 $\frac{1}{4}$	2 $\frac{1}{4}$	4— $\frac{5}{8}$
		21.00		24	29 $\frac{3}{16}$	6	1 $\frac{3}{8}$	3 $\frac{7}{16}$	24 $\frac{3}{4}$	2 $\frac{1}{4}$	4— $\frac{5}{8}$
D	2 $\frac{1}{16}$	15.65	11 $\frac{3}{8}$	10	20 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	15 $\frac{3}{4}$		2— $\frac{3}{4}$
		16.25		12	21 $\frac{1}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	16 $\frac{5}{8}$		2— $\frac{3}{4}$
		16.85		14	22 $\frac{1}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	18 $\frac{1}{4}$		2— $\frac{3}{4}$
		17.55		16	24 $\frac{3}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	19 $\frac{3}{4}$		2— $\frac{3}{4}$
		18.25		18	25 $\frac{7}{16}$	5	1 $\frac{3}{8}$	3 $\frac{7}{16}$	21		2— $\frac{3}{4}$
		19.15		20	26 $\frac{1}{16}$	6	1 $\frac{3}{8}$	3 $\frac{7}{16}$	22 $\frac{1}{4}$	2 $\frac{1}{4}$	4— $\frac{5}{8}$
		22.25		24	29 $\frac{3}{16}$	6	1 $\frac{3}{8}$	3 $\frac{7}{16}$	24 $\frac{3}{4}$	2 $\frac{1}{4}$	4— $\frac{5}{8}$
E	2 $\frac{15}{16}$	19.50	12 $\frac{5}{16}$	10	21 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	16 $\frac{7}{8}$		2— $\frac{7}{8}$
		20.25		12	23 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	18 $\frac{1}{2}$		2— $\frac{7}{8}$
		21.00		14	25 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	20 $\frac{1}{4}$		2— $\frac{7}{8}$
		22.00		16	26 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	21 $\frac{3}{4}$		2— $\frac{7}{8}$
		23.00		18	28 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	23 $\frac{1}{4}$		2— $\frac{7}{8}$
		24.00		20	29 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	24 $\frac{3}{4}$	2 $\frac{3}{8}$	4— $\frac{3}{4}$
		26.00		24	32 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	27 $\frac{3}{4}$	2 $\frac{3}{8}$	4— $\frac{3}{4}$
E	3 $\frac{3}{16}$	21.00	13 $\frac{5}{16}$	10	21 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	16 $\frac{7}{8}$		2— $\frac{7}{8}$
		21.75		12	23 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	18 $\frac{1}{2}$		2— $\frac{7}{8}$
		22.50		14	25 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	20 $\frac{1}{4}$		2— $\frac{7}{8}$
		23.50		16	26 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	21 $\frac{3}{4}$		2— $\frac{7}{8}$
		24.50		18	28 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	23 $\frac{1}{4}$		2— $\frac{7}{8}$
		25.50		20	29 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	24 $\frac{3}{4}$	2 $\frac{3}{8}$	4— $\frac{3}{4}$
		27.50		24	32 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{2}$	3 $\frac{3}{4}$	27 $\frac{3}{4}$	2 $\frac{3}{8}$	4— $\frac{3}{4}$
F	3 $\frac{7}{16}$	24.10	14 $\frac{5}{16}$	10	22 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	16 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		28.00		12	24	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	17 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		29.00		14	25 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	19 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		30.50		16	27	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	20 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		32.00		18	28 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	22 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		34.00		20	30	7	1 $\frac{3}{4}$	4 $\frac{3}{8}$	23 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		38.00		24	33	7	1 $\frac{3}{4}$	4 $\frac{3}{8}$	26 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
F	3 $\frac{1}{16}$	26.10	15 $\frac{5}{16}$	10	22 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	16 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		30.00		12	24	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	17 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		31.00		14	25 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	19 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		32.50		16	27	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	20 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		34.00		18	28 $\frac{1}{2}$	6	1 $\frac{3}{4}$	4 $\frac{3}{8}$	22 $\frac{3}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		36.00		20	30	7	1 $\frac{3}{4}$	4 $\frac{3}{8}$	23 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
		40.00		24	33	7	1 $\frac{3}{4}$	4 $\frac{3}{8}$	26 $\frac{7}{8}$	2 $\frac{1}{2}$	4— $\frac{7}{8}$
G	3 $\frac{15}{16}$	32.75	16 $\frac{3}{8}$	12	25 $\frac{1}{2}$	7	2	4 $\frac{7}{8}$	19	2 $\frac{3}{4}$	4—1
		37.00		14	26 $\frac{3}{4}$	7	2	4 $\frac{7}{8}$	20 $\frac{1}{4}$	2 $\frac{3}{4}$	4—1
		39.00		16	28	7	2	4 $\frac{7}{8}$	21 $\frac{1}{2}$	2 $\frac{3}{4}$	4—1
		41.00		18	29 $\frac{1}{4}$	7	2	4 $\frac{7}{8}$	22 $\frac{3}{4}$	2 $\frac{3}{4}$	4—1
		43.00		20	30 $\frac{1}{2}$	8	2	4 $\frac{7}{8}$	24	2 $\frac{3}{4}$	4—1
		46.00		24	33	8	2	4 $\frac{7}{8}$	26 $\frac{1}{2}$	2 $\frac{3}{4}$	4—1

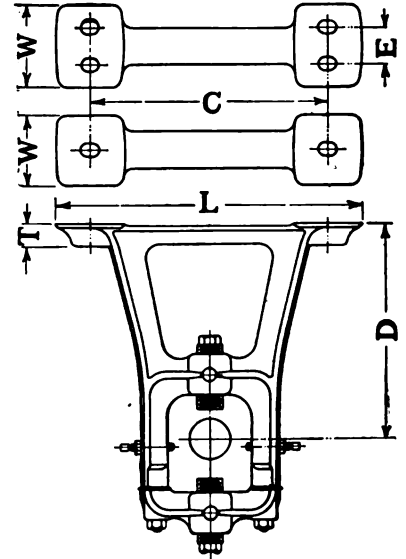
Universal Giant Patented Ring Oiling Ball and Socket Head Shaft Hangers



Fig. T-330

Embodying the adjusting features as described on page 20, and designed to support head shafts carrying main driving pulleys and main line shafts where the duty is heavy. A substantial floor stand is obtained by using this hanger with the bearing inverted.

Ring oiling bearings (Fig. T-319) are furnished unless orders specify other types in which case they must be shipped from the factory.



Price List

Frame Symbols	Shaft Sizes, Inches	List Prices	Dimensions in Inches							Bolts Required
			Length Bearings	D Drop	L	W	T	C	E	
D	1 $\frac{1}{8}$	\$11.00	10 $\frac{1}{2}$	10-12	17 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	13 $\frac{7}{8}$	3	2- $\frac{3}{4}$
		12.00		13-15	19 $\frac{1}{8}$	6	1 $\frac{3}{8}$	14 $\frac{1}{8}$		2- $\frac{3}{4}$
		13.00		16-18	20 $\frac{3}{8}$	6 $\frac{1}{2}$	1 $\frac{3}{8}$	15 $\frac{1}{8}$		2- $\frac{3}{4}$
		14.00		19-21	21 $\frac{1}{2}$	6 $\frac{3}{4}$	1 $\frac{3}{8}$	17 $\frac{1}{8}$		2- $\frac{3}{4}$
		15.50		23-25	26 $\frac{3}{8}$	7 $\frac{1}{2}$	1 $\frac{3}{8}$	22 $\frac{1}{8}$		4- $\frac{3}{4}$
D	2 $\frac{1}{8}$	12.25	11 $\frac{1}{2}$	10-12	17 $\frac{7}{8}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	13 $\frac{7}{8}$	3	2- $\frac{3}{4}$
		13.25		13-15	19 $\frac{1}{8}$	6	1 $\frac{3}{8}$	14 $\frac{1}{8}$		2- $\frac{3}{4}$
		14.25		16-18	20 $\frac{3}{8}$	6 $\frac{1}{2}$	1 $\frac{3}{8}$	15 $\frac{1}{8}$		2- $\frac{3}{4}$
		15.25		19-21	21 $\frac{1}{2}$	6 $\frac{3}{4}$	1 $\frac{3}{8}$	17 $\frac{1}{8}$		2- $\frac{3}{4}$
		16.75		23-25	26 $\frac{3}{8}$	7 $\frac{1}{2}$	1 $\frac{3}{8}$	22 $\frac{1}{8}$		4- $\frac{3}{4}$
E	2 $\frac{7}{8}$	15.50	12 $\frac{1}{2}$	10-12	19 $\frac{9}{16}$	6 $\frac{3}{8}$	1 $\frac{1}{2}$	14 $\frac{3}{8}$	3 $\frac{1}{4}$	2- $\frac{7}{8}$
		17.00		13-15	20 $\frac{7}{8}$	6 $\frac{3}{4}$	1 $\frac{1}{2}$	15 $\frac{1}{8}$		2- $\frac{7}{8}$
		18.50		16-18	22 $\frac{1}{16}$	7	1 $\frac{1}{2}$	17 $\frac{1}{8}$		2- $\frac{7}{8}$
		20.00		19-21	23 $\frac{1}{4}$	7 $\frac{1}{2}$	1 $\frac{1}{2}$	18 $\frac{3}{8}$		2- $\frac{7}{8}$
		21.50		23-25	28 $\frac{3}{16}$	8	1 $\frac{5}{8}$	23 $\frac{3}{8}$		4- $\frac{3}{4}$
E	2 $\frac{11}{16}$	17.00	13 $\frac{1}{2}$	10-12	19 $\frac{9}{16}$	6 $\frac{3}{8}$	1 $\frac{1}{2}$	14 $\frac{3}{8}$	3 $\frac{1}{4}$	2- $\frac{7}{8}$
		18.50		13-15	20 $\frac{7}{8}$	6 $\frac{3}{4}$	1 $\frac{1}{2}$	15 $\frac{1}{8}$		2- $\frac{7}{8}$
		20.00		16-18	22 $\frac{1}{16}$	7	1 $\frac{1}{2}$	17 $\frac{1}{8}$		2- $\frac{7}{8}$
		21.50		19-21	23 $\frac{1}{4}$	7 $\frac{1}{2}$	1 $\frac{1}{2}$	18 $\frac{3}{8}$		2- $\frac{7}{8}$
		23.00		23-25	28 $\frac{3}{16}$	8	1 $\frac{5}{8}$	23 $\frac{3}{8}$		4- $\frac{3}{4}$
F	2 $\frac{15}{16}$	22.50	14 $\frac{1}{2}$	10-12	21 $\frac{1}{2}$	6 $\frac{1}{2}$	1 $\frac{3}{4}$	16 $\frac{1}{4}$	3 $\frac{1}{4}$	4- $\frac{7}{8}$
		24.00		13-15	22 $\frac{1}{2}$	7	1 $\frac{3}{4}$	17		4- $\frac{7}{8}$
		25.50		16-18	23 $\frac{1}{2}$	7 $\frac{1}{2}$	1 $\frac{3}{4}$	18		4- $\frac{7}{8}$
		27.00		19-21	24 $\frac{1}{2}$	8	1 $\frac{3}{4}$	19		4- $\frac{7}{8}$
		29.50		23-25	29 $\frac{1}{2}$	8 $\frac{1}{2}$	1 $\frac{3}{4}$	24		4- $\frac{7}{8}$
F	3 $\frac{1}{8}$	24.50	15 $\frac{1}{2}$	10-12	21 $\frac{1}{2}$	6 $\frac{1}{2}$	1 $\frac{3}{4}$	16 $\frac{1}{4}$	3 $\frac{1}{4}$	4- $\frac{7}{8}$
		26.00		13-15	22 $\frac{1}{2}$	7	1 $\frac{3}{4}$	17		4- $\frac{7}{8}$
		27.50		16-18	23 $\frac{1}{2}$	7 $\frac{1}{2}$	1 $\frac{3}{4}$	18		4- $\frac{7}{8}$
		29.00		19-21	24 $\frac{1}{2}$	8	1 $\frac{3}{4}$	19		4- $\frac{7}{8}$
		31.50		23-25	29 $\frac{1}{2}$	8 $\frac{1}{2}$	1 $\frac{3}{4}$	24		4- $\frac{7}{8}$
G	3 $\frac{1}{2}$	29.00	16 $\frac{1}{2}$	10-12	23 $\frac{1}{2}$	7	2	17 $\frac{1}{2}$	3 $\frac{1}{2}$	4-1
		31.00		13-15	24 $\frac{1}{2}$	7 $\frac{1}{2}$	2	18 $\frac{1}{2}$		4-1
		33.00		16-18	25 $\frac{1}{2}$	8	2	19 $\frac{1}{2}$		4-1
		35.50		19-21	26 $\frac{1}{2}$	8 $\frac{1}{2}$	2	20 $\frac{1}{2}$		4-1
		38.50		23-25	30 $\frac{1}{4}$	9	2	24 $\frac{1}{4}$		4-1
G	3 $\frac{11}{16}$	31.00	17 $\frac{3}{8}$	10-12	23 $\frac{1}{2}$	7	2	17 $\frac{1}{2}$	3 $\frac{1}{2}$	4-1
		33.00		13-15	24 $\frac{1}{2}$	7 $\frac{1}{2}$	2	18 $\frac{1}{2}$		4-1
		35.00		16-18	25 $\frac{1}{2}$	8	2	19 $\frac{1}{2}$		4-1
		37.50		19-21	26 $\frac{1}{2}$	8 $\frac{1}{2}$	2	20 $\frac{1}{2}$		4-1
		40.50		23-25	30 $\frac{1}{4}$	9	2	24 $\frac{1}{4}$		4-1
H	3 $\frac{13}{16}$	40.00	18 $\frac{3}{8}$	10-12	26 $\frac{3}{4}$	8	2 $\frac{1}{4}$	20 $\frac{1}{2}$	3 $\frac{1}{2}$	4-1 $\frac{1}{4}$
		43.00		13-15	28 $\frac{1}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	22 $\frac{1}{4}$		4-1 $\frac{1}{8}$
		46.00		16-18	30	9	2 $\frac{1}{4}$	23 $\frac{3}{4}$		4-1 $\frac{1}{8}$
		49.00		19-21	31 $\frac{1}{2}$	9 $\frac{1}{2}$	2 $\frac{1}{4}$	25 $\frac{3}{8}$		4-1 $\frac{1}{8}$
		54.00		23-25	33 $\frac{3}{4}$	10	2 $\frac{1}{4}$	27 $\frac{1}{2}$		4-1 $\frac{1}{8}$
H	4 $\frac{1}{8}$	45.00	20 $\frac{3}{8}$	10-12	26 $\frac{3}{4}$	8	2 $\frac{1}{4}$	20 $\frac{1}{2}$	3 $\frac{1}{2}$	4-1 $\frac{1}{8}$
		48.00		13-15	28 $\frac{1}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	22 $\frac{1}{4}$		4-1 $\frac{1}{8}$
		51.00		16-18	30	9	2 $\frac{1}{4}$	23 $\frac{3}{4}$		4-1 $\frac{1}{8}$
		54.00		19-21	31 $\frac{1}{2}$	9 $\frac{1}{2}$	2 $\frac{1}{4}$	25 $\frac{3}{8}$		4-1 $\frac{1}{8}$
		59.00		23-25	33 $\frac{3}{4}$	10	2 $\frac{1}{4}$	27 $\frac{1}{2}$		4-1 $\frac{1}{8}$

Universal Giant Hanger and Pillow Block Frames and Bearings

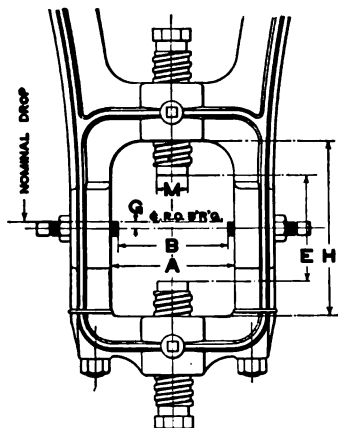


Fig. T-331

The unique adjusting features of Universal Giant hangers and pillow blocks make them especially desirable for use with the various types of anti-friction bearings which may be made with Universal Giant bosses to fit these frames.

In order that the proper size frame may be selected, the necessary dimensions are given in the following table:

Dimensions in Inches

Frame Symbols	A	B	E			H			G	M
			Drop Hanger	Post and Bracket Hanger	Adjustable Pillow Block	Drop Hanger	Post and Bracket Hanger	Adjustable Pillow Block		
A	3 1/2	3	2 5/8	2 5/8	2 5/8	4 7/8	4 1/8	4 1/8	1/4	1 1/16
B	4	3 1/2	3 1/4	3 1/4	3 1/4	6	5	5 5/8	1/4	1 3/16
C	4 11/16	4 3/16	3 7/8	3 7/8	3 7/8	6 5/8	5 5/8	5 5/8	1/4	1 3/16
D	5 1/2	5	4 5/8	4 5/8	4 5/8	7 1/2	6 1/2	6 1/2	3/8	1 11/16
E	6 1/8	5 5/8	5 5/16	5 5/16	5 5/16	8	7	7	7/16	1 11/16
F	7	6 1/2	5 3/4	5 3/4	5 3/4	8 5/8	7 5/8	7 5/8	7/16	2 3/16
G	7 1/2	7	6 9/16	6 9/16	6 9/16	9 1/2	8 1/2	8 1/2	1/2	2 3/16
H	8 7/8	8 3/8	7 3/4	7 3/4	7 3/4	10 3/4	9 3/4	9 3/4	5/8	2 11/16

NOTE—Distance from shaft center to base of hangers, when ball or roller bearings are used, is equal to nominal drop plus dimension G.

Price List

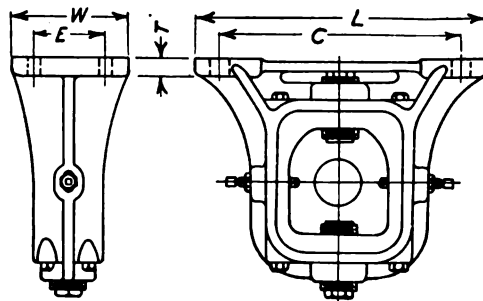
Frame Symbols	Shaft Sizes, Inches	List Price Ring Oiling Babbitted Bearings for Drop Hangers, Post and Bracket Hangers and Ad. Pillow Blocks	Drop Hanger Frames, Without Bearings Drop in Inches								Post Hanger Frames without Bearings	Pillow Block Frames without Bearings	Universal Giant Headshaft Hangers, Fig. T-330	
			7-9	10-12	13-15	16-18	19-21	23-25	28-30	34-36			List Prices Ring Oiling Babbitted Bearings	Frame Symbols
A	1 3/16	\$1.75	\$2.85	\$3.25	\$3.65	\$4.15	\$4.65				\$3.25	\$2.85		
B	1 7/16	2.25	2.95	3.35	3.95	4.45	5.15	\$6.00			3.35	2.95		
	1 11/16	2.75												
C	2 3/16	3.25	4.00	4.50	5.10	5.75	6.50	7.25	\$10.25		4.00	3.75	\$5.00	D
	2 7/16	4.25											6.25	
D	2 11/16	5.00	5.20	6.00	7.00	8.00	9.00	10.50	13.50	\$17.00	6.00	5.20	7.50	E
	2 15/16	6.25											9.00	
E	3 1/16	7.50	7.00	8.00	9.50	11.00	12.50	14.00	17.50	21.50	8.50	7.50	10.50	F
	3 5/16	9.00											12.50	
F	3 7/16	10.50		12.00	13.50	15.00	16.50	19.00	22.50	26.50	13.50	12.00	14.50	G
	3 11/16	12.50											16.50	
G	3 15/16	14.50		14.50	16.50	18.50	21.00	24.00	27.50	32.50	17.50	14.00	18.50	H
	4 1/16	18.50												
H	4 7/16	23.50	21.50	24.50	27.50	30.50	35.50	41.50	51.50	51.50	29.50	21.50	23.50	
	4 11/16													

NOTE—To obtain list prices of bracket hanger frames deduct list prices of babbitted bearings in third column from list prices of complete bracket hangers, page 28.

Extra Heavy Universal Giant Ring Oiling Ball and Socket Head Shaft Hangers



Fig. T-332



Designed especially for extra heavy headshaft service, this hanger is one of the best of its type and embodies the adjusting features described on page 20.

The frame is exceptionally strong and of rigid construction. The yoke which carries the bearing is connected to the frame by four heavy through bolts.

The bearing is adjustable laterally and vertically within the frame which insures accurate alignment of shafting and maintenance of same.

Base plates or shoes will be furnished when desired. Shoes 3 inches thick are used to obtain odd drops. A 12-inch hanger and 3-inch shoe give a drop of 15 inches.

Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches							Bolts Required
		Drop	Length Bearing	L	W	C	E	T	
3 ¹⁵ / ₁₆	\$77.00	12	18 ³ / ₁₆	26	7 ¹ / ₂	21 ¹ / ₂	4	1 ¹ / ₄	4—1
	80.00	14		26	7 ¹ / ₂	21 ¹ / ₂	4	1 ¹ / ₄	4—1
	83.50	16		26	7 ¹ / ₂	21 ¹ / ₂	4	1 ¹ / ₄	4—1
	87.00	18		26	7 ¹ / ₂	21 ¹ / ₂	4	1 ¹ / ₄	4—1
	93.00	20		32 ¹ / ₂	7 ¹ / ₂	28	4	1 ¹ / ₄	4—1
	100.00	24		32 ¹ / ₂	7 ¹ / ₂	28	4	1 ¹ / ₄	4—1
4 ⁷ / ₁₆	90.00	12	20	29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	93.00	14		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	96.50	16		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	100.50	18		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	105.00	20		36	8 ¹ / ₂	31	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	112.00	24		36	8 ¹ / ₂	31	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
4 ¹⁵ / ₁₆	94.50	12	20	29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	97.50	14		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	101.00	16		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	105.00	18		29	8 ¹ / ₂	24	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	109.50	20		36	8 ¹ / ₂	31	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
	116.50	24		36	8 ¹ / ₂	31	4 ³ / ₄	1 ³ / ₈	4—1 ¹ / ₈
5 ⁷ / ₁₆	120.00	12	24	33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	125.00	14		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	130.00	16		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	135.00	18		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	140.00	20		40 ¹ / ₂	9 ¹ / ₂	35	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	150.00	24		40 ¹ / ₂	9 ¹ / ₂	35	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
5 ¹⁵ / ₁₆	127.00	12	24	33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	132.00	14		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	137.00	16		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	142.00	18		33	9 ¹ / ₂	27 ¹ / ₂	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	147.00	20		40 ¹ / ₂	9 ¹ / ₂	35	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄
	157.00	24		40 ¹ / ₂	9 ¹ / ₂	35	5 ¹ / ₂	1 ¹ / ₂	4—1 ¹ / ₄

Extra Heavy Universal Giant Ring Oiling Ball and Socket Head Shaft Hangers

Price List—Continued

Shaft Sizes, Inches	List Prices	Drops, Inches	Dimensions in Inches						Bolts Required
			Bearing Lengths	L	W	C	E	T	
6 $\frac{7}{16}$	\$165.00	12	26	35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	171.50	14		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	178.00	16		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	185.00	18		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	191.50	20		43	10 $\frac{1}{2}$	37	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	203.50	24		43	10 $\frac{1}{2}$	37	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
6 $\frac{15}{16}$	176.00	12	26	35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	182.50	14		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	189.00	16		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	196.00	18		35	10 $\frac{1}{2}$	29	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	202.50	20		43	10 $\frac{1}{2}$	37	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
	214.50	24		43	10 $\frac{1}{2}$	37	6 $\frac{1}{2}$	1 $\frac{3}{4}$	4—1 $\frac{3}{8}$
7 $\frac{1}{16}$	254.00	16	28	40	11 $\frac{1}{2}$	33 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	262.00	18		40	11 $\frac{1}{2}$	33 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	272.00	20		44	11 $\frac{1}{2}$	37 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	286.00	24		44	11 $\frac{1}{2}$	37 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
7 $\frac{15}{16}$	274.00	16	28	40	11 $\frac{1}{2}$	33 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	282.00	18		40	11 $\frac{1}{2}$	33 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	292.00	20		44	11 $\frac{1}{2}$	37 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$
	306.00	24		44	11 $\frac{1}{2}$	37 $\frac{1}{2}$	7 $\frac{1}{2}$	2	4—1 $\frac{1}{2}$

Base Plates or Shoes

For Use with Extra Heavy Head Shaft Hangers (Fig. T-332)

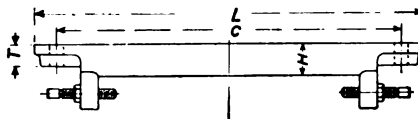
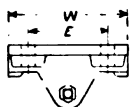


Fig. T-333

Price List

Shaft Sizes, Inches	For Use with Hangers—Drops, Inches	List Prices		Dimensions in Inches						Bolts Required
		2 Inches Thick	3 Inches Thick	L	W	C	E	H	T	
3 ¹⁵ / ₁₆	12-14-16-18 20-24	\$25.00	\$30.00	35 ¹ / ₂	8 ³ / ₄	32	5	Made in two thicknesses, 2-inches and 3-inches. See price list, this table.	1 ¹ / ₄	4—1
		36.00	42.00	42	8 ³ / ₄	38 ¹ / ₂	5		1 ¹ / ₄	4—1
4 ⁷ / ₁₆ —4 ¹⁵ / ₁₆	12-14-16-18 20-24	32.50	39.00	38 ¹ / ₂	9 ³ / ₄	34 ¹ / ₂	6		1 ³ / ₈	4—1 ¹ / ₈
		45.50	54.60	45 ¹ / ₂	9 ³ / ₄	41 ¹ / ₂	6		1 ³ / ₈	4—1 ¹ / ₈
5 ⁷ / ₁₆ —5 ¹⁵ / ₁₆	12-14-16-18 20-24	41.00	49.20	43	11	39	7		1 ¹ / ₂	4—1 ¹ / ₄
		57.40	68.90	50 ¹ / ₂	11	46 ¹ / ₂	7		1 ¹ / ₂	4—1 ¹ / ₄
6 ⁷ / ₁₆ —6 ¹⁵ / ₁₆	12-14-16-18 20-24	50.00	60.00	45	11 ¹ / ₂	41	7 ³ / ₄		1 ³ / ₄	4—1 ³ / ₈
		70.00	84.00	53	11 ¹ / ₂	49	7 ³ / ₄		1 ³ / ₄	4—1 ³ / ₈
7 ⁷ / ₁₆ —7 ¹⁵ / ₁₆	16-18 20-24	61.00	72.00	52	13	47	8 ¹ / ₂		2	4—1 ¹ / ₂
		85.00	100.00	56	13	51	8 ¹ / ₂		2	4—1 ¹ / ₂

Sling Hangers

These sling hangers are designed for extra heavy duty requiring perfect rigidity. They are equipped with wedges for vertical adjustment and set screws for horizontal adjustment.

Extra heavy rigid ring oiling pillow blocks (Fig. T-347) are best suited for sling hangers sustaining heavy loads.

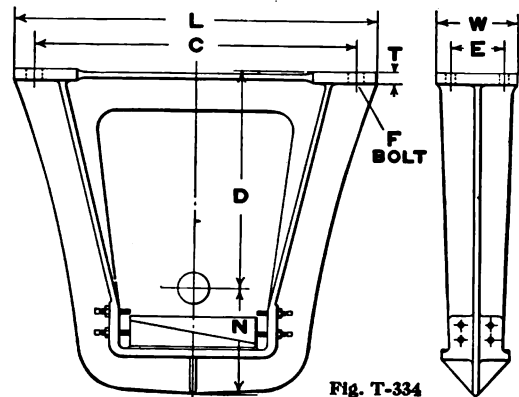


Fig. T-334

Price List

Shaft Sizes, Inches	Dimensions in Inches							Bolts		List Prices Wedges Included
	D	L	W	T	C	E	N	Numbers	Sizes	
2 1/16 to 3 1/16	18	36	8	1 1/8	32	5	10 3/4	4	3/4	\$100.00
	24	36	8	1 1/8	32	5	10 3/4	4	3/4	105.00
	30	38	9	1 1/8	34	6	10 3/4	4	3/4	115.00
	36	38	9	1 1/8	34	6	10 3/4	4	3/4	125.00
3 1/16 to 3 11/16	18	40	9	1 1/4	35 1/2	6	11 1/2	4	7/8	115.00
	24	40	9	1 1/4	35 1/2	6	11 1/2	4	7/8	120.00
	30	44	10	1 1/4	39 1/2	7	11 1/2	4	7/8	130.00
	36	44	10	1 1/4	39 1/2	7	11 1/2	4	7/8	145.00
3 11/16	18	43	10	1 3/8	38	6	13	4	1	125.00
	24	43	10	1 3/8	38	6	13	4	1	135.00
	30	48	11	1 3/8	43	7	13	4	1	145.00
	36	48	11	1 3/8	43	7	13	4	1	160.00
4 1/16 to 4 11/16	18	44	11	1 1/2	39	7	14 3/4	4	1 1/8	145.00
	24	44	11	1 1/2	39	7	14 3/4	4	1 1/8	160.00
	30	50	12	1 1/2	45	8	14 3/4	4	1 1/8	175.00
	36	50	12	1 1/2	45	8	14 3/4	4	1 1/8	190.00
5 1/16 to 5 11/16	18	50	13	1 3/4	44	8	16 3/4	4	1 1/4	190.00
	24	50	13	1 3/4	44	8	16 3/4	4	1 1/4	205.00
	30	54	14	1 3/4	48	9	16 3/4	4	1 1/4	220.00
	36	54	14	1 3/4	48	9	16 3/4	4	1 1/4	240.00
6 1/16 to 6 11/16	18	56	15	1 7/8	50	10	18 3/4	4	1 3/8	260.00
	24	56	15	1 7/8	50	10	18 3/4	4	1 3/8	280.00
	30	60	16	2	54	11	18 3/4	4	1 3/8	300.00
	36	60	16	2	54	11	18 3/4	4	1 3/8	325.00
7 1/16 to 7 11/16	18	56	15	1 7/8	50	10	20 1/4	4	1 3/8	300.00
	24	56	15	1 7/8	50	10	20 1/4	4	1 3/8	320.00
	30	60	16	2	54	11	20 1/4	4	1 3/8	340.00
	36	60	16	2	54	11	20 1/4	4	1 3/8	365.00

Prices of these hangers for use with Quill Bearings, (Fig. T-345,) quoted on application.

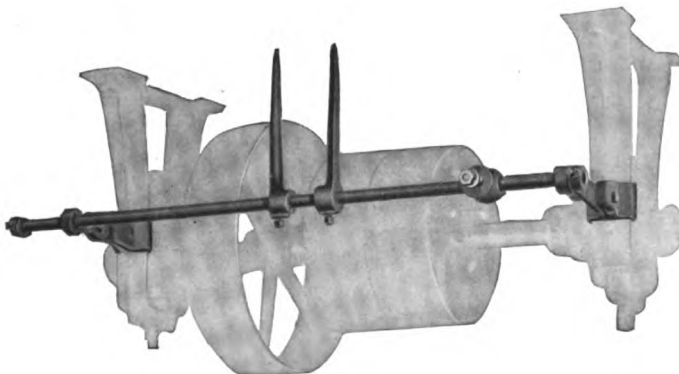


Fig. T-335

Belt Shifting Appliances

These appliances are designed to attach to Universal Giant hangers or those having a similar frame section.

The arms are clamped to side of frames and can be easily attached after hangers are erected and in place.

A full set of appliances comprises the following parts,

- Two shifter arms
- Two shifter fingers
- Two set collars
- One lever hub
- One rod (standard length, 4 feet)
- One ceiling bracket (not illustrated)

Price List

Fixture Symbols	Shaft Sizes, Inches	Complete Set of Fixtures	Arms, Each	Fingers, Each	Collars, Each	Lever Hubs, Each	Ceiling Brackets, Each	Rods 48 Inches Long, Each
A	1 1/16	\$7.00	\$1.75	\$1.00	\$0.50	\$1.00	\$0.75	\$1.00
B	1 7/16 to 1 11/16	7.00	1.75	1.00	.65	1.00	.75	1.25
C	1 11/16 to 2 1/16	8.15	2.35	1.00	.65	1.00	.75	1.25
D	2 1/16 to 2 11/16	10.50	3.25	1.25	.75	1.25	1.00	1.50
E	2 11/16 to 3 1/16	11.70	3.50	1.25	.75	1.25	1.00	1.50

Girder Clamps



Fig. T-336

Girder clamps (Fig. T-336) are simple in construction, strong and easily attached. They are so designed that each pattern may be used with girders having different width flanges.

Each clamp is two inches thick, which fact should be considered when determining drop of hanger.

Price List

Clamp Symbols	Width of Girder Flanges	Hangers Symbols	Range Shaft Sizes, Inches	Range Drops, Inches	Number and Size Bolts*	List Price per Pair for Each Hanger
No. 1	For Girders with Flanges 3½ to 5 inches wide	B and C	1 7/16 to 2 3/16	0 to 21	2—1/2x2 1/2	\$5.50
2		B and C	1 7/16 " 2 3/16	23 " 36	4—1/2x2 1/2	6.50
3		D	2 7/16 " 2 11/16	0 " 21	2—5/8x3	6.00
6		D	2 7/16 " 2 11/16	23 " 36	4—5/8x3	9.50
5		E	2 15/16 " 3 3/16	0 " 21	2—5/8x3	6.50
6		E	2 15/16 " 3 3/16	23 " 36	4—5/8x3	9.50
7		F	3 7/16 " 3 11/16	0 " 36	4—3/4x3 1/4	12.00
8		G	3 15/16 " 4 3/16	0 " 36	4—3/4x3 1/4	13.00
9		H	4 7/16 " 4 15/16	0 " 36	4—7/8x3 3/4	16.00
No. 21	For Girders with Flanges 5 1/16 to 6 1/2 inches wide	B and C	1 7/16 " 2 3/16	0 " 21	2—1/2x2 1/2	6.50
22		B and C	1 7/16 " 2 3/16	23 " 36	4—1/2x2 1/2	7.50
23		D	2 7/16 " 2 11/16	0 " 21	2—5/8x3	7.00
26		D	2 7/16 " 2 11/16	23 " 36	4—5/8x3	11.00
25		E	2 15/16 " 3 3/16	0 " 21	2—5/8x3	8.00
26		E	2 15/16 " 3 3/16	23 " 36	4—5/8x3	11.00
27		F	3 7/16 " 3 11/16	0 " 36	4—3/4x3 1/4	13.50
28		G	3 15/16 " 4 3/16	0 " 36	4—3/4x3 1/4	14.50
29		H	4 7/16 " 4 15/16	0 " 36	4—7/8x3 3/4	18.00
No. 31	For Girders with Flanges 6 9/16 to 8 inches wide	B and C	1 7/16 " 2 3/16	0 " 21	2—1/2x2 1/2	8.00
32		B and C	1 7/16 " 2 3/16	23 " 36	4—1/2x2 1/2	9.00
33		D	2 7/16 " 2 11/16	0 " 21	2—5/8x3	8.50
36		D	2 7/16 " 2 11/16	23 " 36	4—5/8x3	13.00
35		E	2 15/16 " 3 3/16	0 " 21	2—5/8x3	10.00
36		E	2 15/16 " 3 3/16	23 " 36	4—5/8x3	13.00
37		F	3 7/16 " 3 11/16	0 " 36	4—3/4x3 1/4	15.50
38		G	3 15/16 " 4 3/16	0 " 36	4—3/4x3 1/4	17.00
39		H	4 7/16 " 4 15/16	0 " 36	4—7/8x3 3/4	21.00

*Bolts for attaching clamps to girders.

Girder clamps (Fig. T-337) are made to fit a particular width of flange.

Price List

For girders with flanges 4 1/2 inches wide or less and for hangers 2 15/16 inch and smaller, per pair.....\$5.50
 For girders with flanges 4 9/16 inches to 8 inches wide and for hangers 2 15/16 to 3 15/16, per pair.....\$6.50



Fig. T-337

NOTE—List prices do not include bolts for attaching hangers to clamps.



Fig. T-338—Plain Bore
Fig. T-338A—Babbitted

Vertical Shaft Bearings

Solid Vertical Bearings can be furnished with either babbitt lining or plain bore. They are made by casting oil cup on one end of Solid Journals (Fig. T-353 or T-354) and are of same dimensions except bearing length which is approximately B plus $\frac{1}{4}$ inch.

Split Vertical Bearings, furnished babbitt lined, are made by casting oil cup on one end of Standard Rigid Pillow Blocks (Fig. T-350 or T-351) and are of same dimensions except bearing length, which is B plus $\frac{1}{4}$ inch.



Fig. T-339

Price List (Fig. T-338, T-338A and T-339)

Shaft Sizes, Inches	Fig. T-338	Fig. T-338A	Fig. T-339	Shaft Sizes, Inches	Fig. T-338	Fig. T-338A	Fig. T-339	Shaft Sizes, Inches	Fig. T-338	Fig. T-338A	Fig. T-339
$1\frac{5}{16}$	\$1.20	\$1.35		$2\frac{3}{16}$	\$3.75	\$3.75	\$7.00	$3\frac{1}{16}$	\$9.00	\$9.00	\$16.50
$1\frac{3}{8}$	1.50	1.75	\$2.40	$2\frac{7}{16}$	4.65	4.65	8.25	$3\frac{7}{16}$	11.25	11.25	19.50
$1\frac{7}{8}$	1.95	2.20	3.00	$2\frac{11}{16}$	5.50	5.50	10.50	$3\frac{11}{16}$	13.50	13.50	21.75
$1\frac{11}{16}$	2.40	2.70	3.90	$2\frac{15}{16}$	7.15	7.15	13.15	$3\frac{15}{16}$	16.15	16.15	24.00
$1\frac{15}{16}$	3.15	3.15	5.40								



Fig. T-340

Rigid Step Bearings (Fig. T-340) are made of cast iron, accurately finished to shaft sizes and are fitted with hardened steel discs in the bottom of the bores. They are supplied with a pocket for packing with oil and waste to be used as a lubricant.

Adjustable Step Bearings (Fig. T-341) are made of cast iron accurately finished to shaft sizes, fitted with steel discs in bottom of bore. The step proper is free to adjust in any direction and is held in place by three set screws. The space between step and outer shell should be filled with lubricant.



Fig. T-341

Price List

Rigid (Fig. T-340)								Adjustable (Fig. T-341)							
Shaft Sizes, Inches	List Prices	Dimensions in Inches						Shaft Sizes, Inches	List Prices	Dimensions in Inches					
		Length of Base	Width of Base	Bolt Centers	Thickness through Bolt Slots	Height Over All	Bolts Required			Length of Base	Width of Base	Bolt Centers	Thickness through Bolt Slots	Height Over All	Bolts Required
$1\frac{5}{16}$	\$2.00	8	4	6	$\frac{5}{8}$	$2\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{5}{16}$	\$4.00	7	4	$5\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{1}{2}$
$1\frac{3}{8}$	2.50	8	4	6	$\frac{5}{8}$	$2\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{3}{8}$	5.00	7	4	$5\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{1}{2}$
$1\frac{7}{8}$	3.00	$9\frac{3}{8}$	5	7	$1\frac{1}{16}$	$2\frac{7}{8}$	$2\frac{5}{8}$	$1\frac{7}{8}$	6.00	$9\frac{7}{8}$	$5\frac{1}{2}$	$7\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{5}{8}$
$1\frac{11}{16}$	3.50	$9\frac{3}{8}$	5	7	$1\frac{1}{16}$	$2\frac{7}{8}$	$2\frac{5}{8}$	$1\frac{11}{16}$	7.00	$9\frac{7}{8}$	$5\frac{1}{2}$	$7\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{5}{8}$
$1\frac{15}{16}$	4.50	$9\frac{3}{8}$	5	7	$1\frac{1}{16}$	$2\frac{7}{8}$	$2\frac{5}{8}$	$1\frac{15}{16}$	9.20	$9\frac{7}{8}$	$5\frac{1}{2}$	$7\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{5}{8}$
$2\frac{3}{16}$	5.50	$9\frac{3}{8}$	5	7	$1\frac{1}{16}$	$2\frac{7}{8}$	$2\frac{5}{8}$	$2\frac{3}{16}$	11.00	$9\frac{7}{8}$	$5\frac{1}{2}$	$7\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{5}{8}$
$2\frac{7}{16}$	6.50	10	$5\frac{15}{16}$	$7\frac{5}{8}$	$\frac{7}{8}$	$3\frac{9}{16}$	$2\frac{3}{4}$	$2\frac{7}{16}$	13.00	14	$8\frac{1}{2}$	$10\frac{3}{8}$	1	$4\frac{1}{2}$	$2\frac{3}{4}$
$2\frac{11}{16}$	8.00	10	$5\frac{15}{16}$	$7\frac{5}{8}$	$\frac{7}{8}$	$3\frac{9}{16}$	$2\frac{3}{4}$	$2\frac{11}{16}$	16.00	14	$8\frac{1}{2}$	$10\frac{3}{8}$	1	$4\frac{1}{2}$	$2\frac{3}{4}$
$2\frac{15}{16}$	10.00	10	$5\frac{15}{16}$	$7\frac{5}{8}$	$\frac{7}{8}$	$3\frac{9}{16}$	$2\frac{3}{4}$	$2\frac{15}{16}$	20.00	14	$8\frac{1}{2}$	$10\frac{3}{8}$	1	$4\frac{1}{2}$	$2\frac{3}{4}$
$3\frac{3}{16}$	11.50	10	$5\frac{15}{16}$	$7\frac{5}{8}$	$\frac{7}{8}$	$3\frac{9}{16}$	$2\frac{3}{4}$	$3\frac{3}{16}$	22.80	14	$8\frac{1}{2}$	$10\frac{3}{8}$	1	$4\frac{1}{2}$	$2\frac{3}{4}$
$3\frac{7}{16}$	13.00	$12\frac{1}{2}$	$7\frac{7}{8}$	$9\frac{3}{8}$	1	$4\frac{3}{8}$	$2\frac{7}{8}$	$3\frac{7}{16}$	26.20	17	10	13	$1\frac{1}{8}$	$5\frac{3}{4}$	$2\frac{7}{8}$
$3\frac{11}{16}$	15.00	$12\frac{1}{2}$	$7\frac{7}{8}$	$9\frac{3}{8}$	1	$4\frac{3}{8}$	$2\frac{7}{8}$	$3\frac{11}{16}$	29.90	17	10	13	$1\frac{1}{8}$	$5\frac{3}{4}$	$2\frac{7}{8}$
$3\frac{15}{16}$	18.00	$12\frac{1}{2}$	$7\frac{7}{8}$	$9\frac{3}{8}$	1	$4\frac{3}{8}$	$2\frac{7}{8}$	$3\frac{15}{16}$	36.00	17	10	13	$1\frac{1}{8}$	$5\frac{3}{4}$	$2\frac{7}{8}$

Ring Oiling Ball and Socket Pillow Blocks

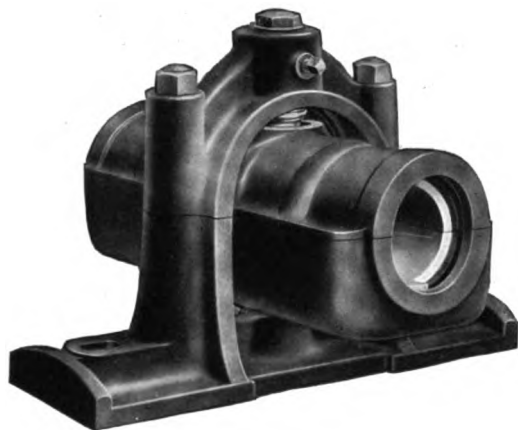
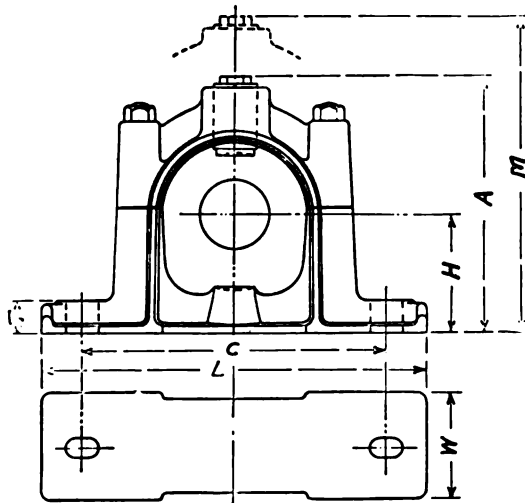


Fig. T-342



These pillow blocks are of a true ball and socket type and can be furnished with wedge adjustable base plates to secure universal adjustment.

The bearings are of extra length, ring oiling, babbitted, finished accurately to size and have ends faced.

The oil reservoir is proportionately large and a permanent device at each end of the bearing returns the surplus oil to it.

These bearings can be made dust proof at slight extra cost, as per list page 23.

Price List

Shaft Sizes, Inches	Length Bearings, Inches	List Prices	Dimensions in Inches							Bolts Required
			H	L	W	T	A	M	C	
1 $\frac{3}{16}$	5	\$4.20	2 $\frac{7}{8}$	10 $\frac{3}{4}$	2 $\frac{3}{4}$	1	6 $\frac{7}{8}$	9 $\frac{3}{4}$	7 $\frac{13}{16}$	2— $\frac{7}{16}$
1 $\frac{7}{16}$	7 $\frac{1}{2}$	5.90	3 $\frac{7}{16}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	8 $\frac{1}{4}$	11 $\frac{3}{4}$	9	2— $\frac{1}{2}$
1 $\frac{11}{16}$	8 $\frac{3}{4}$	6.40	3 $\frac{7}{16}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	8 $\frac{1}{4}$	11 $\frac{3}{4}$	9	2— $\frac{1}{2}$
1 $\frac{15}{16}$	10	7.00	4	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	9 $\frac{1}{2}$	13 $\frac{1}{2}$	9 $\frac{7}{8}$	2— $\frac{5}{8}$
2 $\frac{3}{16}$	11	7.75	4	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	9 $\frac{1}{2}$	13 $\frac{1}{2}$	9 $\frac{7}{8}$	2— $\frac{5}{8}$
2 $\frac{7}{16}$	12 $\frac{1}{2}$	10.75	4 $\frac{1}{2}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	11	15	11 $\frac{7}{8}$	2— $\frac{3}{4}$
2 $\frac{11}{16}$	12 $\frac{1}{2}$	11.75	4 $\frac{1}{2}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	11	15	11 $\frac{7}{8}$	2— $\frac{3}{4}$
2 $\frac{15}{16}$	15 $\frac{1}{4}$	15.75	5 $\frac{1}{4}$	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	12	17	12 $\frac{7}{8}$	2— $\frac{7}{8}$
3 $\frac{3}{16}$	15 $\frac{1}{4}$	17.00	5 $\frac{1}{4}$	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	12	17	12 $\frac{7}{8}$	2— $\frac{7}{8}$
3 $\frac{7}{16}$	17 $\frac{1}{2}$	23.00	6	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	13 $\frac{1}{2}$	19 $\frac{1}{2}$	15 $\frac{1}{2}$	2—1
3 $\frac{11}{16}$	17 $\frac{1}{2}$	24.50	6	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	13 $\frac{1}{2}$	19 $\frac{1}{2}$	15 $\frac{1}{2}$	2—1
3 $\frac{15}{16}$	19	32.50	6 $\frac{3}{4}$	24	8	1 $\frac{3}{4}$	14 $\frac{1}{2}$	21	17	2—1 $\frac{1}{8}$
4 $\frac{1}{16}$	22	46.00	7 $\frac{7}{8}$	25 $\frac{1}{2}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	17 $\frac{1}{2}$	25	20 $\frac{3}{8}$	2—1 $\frac{1}{4}$
4 $\frac{5}{16}$	22	49.00	7 $\frac{7}{8}$	25 $\frac{1}{2}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	17 $\frac{1}{2}$	25	20 $\frac{3}{8}$	2—1 $\frac{1}{4}$
5 $\frac{1}{16}$	24	64.00	9 $\frac{1}{2}$	31	9	2 $\frac{3}{4}$	21	29 $\frac{1}{2}$	25	2—1 $\frac{1}{2}$
5 $\frac{5}{16}$	24	69.00	9 $\frac{1}{2}$	31	9	2 $\frac{3}{4}$	21	29 $\frac{1}{2}$	25	2—1 $\frac{1}{2}$
6 $\frac{7}{16}$	26	90.00	11	34 $\frac{1}{2}$	10 $\frac{1}{2}$	3 $\frac{1}{4}$	23 $\frac{1}{2}$	33 $\frac{1}{2}$	27 $\frac{1}{2}$	2—1 $\frac{3}{4}$
6 $\frac{11}{16}$	26	96.00	11	34 $\frac{1}{2}$	10 $\frac{1}{2}$	3 $\frac{1}{4}$	23 $\frac{1}{2}$	33 $\frac{1}{2}$	27 $\frac{1}{2}$	2—1 $\frac{3}{4}$
7 $\frac{1}{16}$	28	126.00	12 $\frac{1}{2}$	39	12	3 $\frac{3}{4}$	26 $\frac{1}{2}$	37 $\frac{1}{2}$	31	2—2
7 $\frac{5}{16}$	28	133.00	12 $\frac{1}{2}$	39	12	3 $\frac{3}{4}$	26 $\frac{1}{2}$	37 $\frac{1}{2}$	31	2—2

Cast-Iron Quills

A quill is a hollow shaft supported by independent bearings relieving the shaft of all bending stress resulting from weight of wheels and pull of belts or ropes, and overcoming frictional losses due to deflection of shaft when pulleys, sheaves or

clutches are mounted directly on shaft. It is primarily used for heavy installations, taking the place of clutch sleeves or other loose members running on shaft.

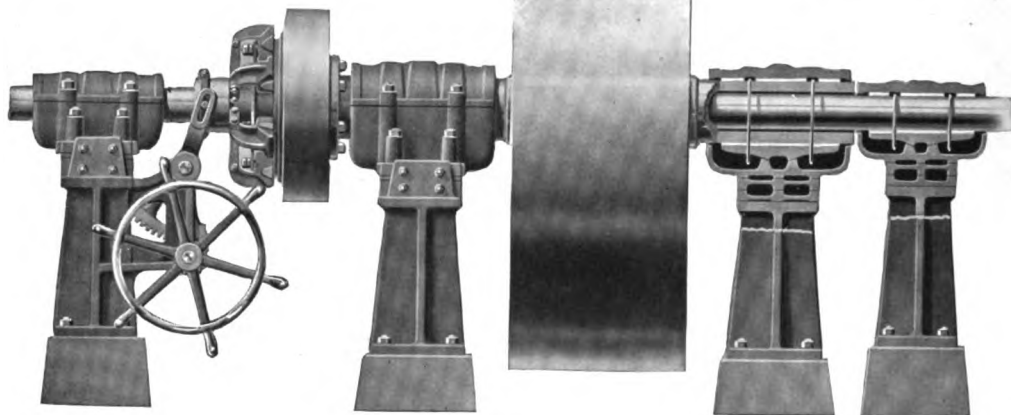


Fig. T-343

As the quill does not come in contact with shaft it requires no lubrication other than that necessary for bearings in which it operates. It cannot become seized to shaft on account of improper lubrication like a loose sleeve which revolves on shaft or like a stationary sleeve in which the shaft revolves.

For satisfactory service a quill must be installed and maintained concentric with shaft with which it is connected. Only rigid bearings supported on wedges for vertical and lateral adjustment should be used and foundations or supports must be of permanent and rigid construction.

The quill illustrated is for use with Universal Giant friction clutches, but may be connected with shaft by means of flange or jaw clutch couplings.

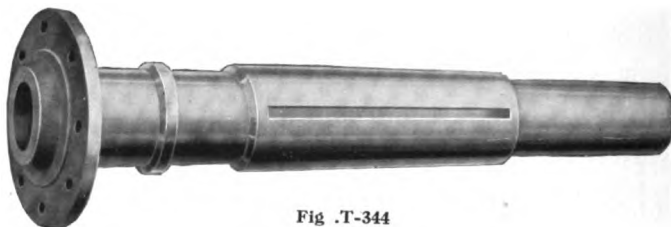
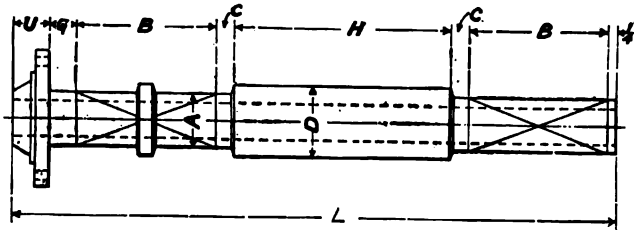


Fig. T-344



Price List

Dimensions in Inches									List Prices per Lineal Foot
Shaft Sizes, Inches	A	B	C	D	G	H	U	Keyseat in Swell	
2 15/16	5 11/16	12	3 3/4	6 11/16	1 3/4	Not less than width of face of pulley.	See pages 73, 75 and 77 for Single and Double Disc Clutches.	1 1/4 x 1/4	\$24.40
3 1/16	6 3/16	14	3 3/4	7 3/16	1 3/4			1 1/2 x 1/4	29.40
3 15/16	6 11/16	14	3 3/4	7 11/16	2			1 3/4 x 1/4	31.80
4 7/16	7 7/16	16	3 3/4	8 7/16	2			1 3/4 x 1/4	35.00
4 15/16	8 3/16	16	3 3/4	9 3/16	2			2 x 3/8	38.00
5 7/16	8 11/16	18	3 3/4	9 11/16	2 1/4			2 x 3/8	41.00
5 15/16	9 3/16	18	3 3/4	10 3/16	2 1/4			2 1/4 x 3/8	42.00
6 7/16	10 3/16	21	3 3/4	11 3/16	2 1/2			2 1/2 x 3/8	44.00
6 15/16	10 11/16	21	3 3/4	11 11/16	2 1/2			2 3/4 x 3/8	50.00
7 7/16	11 11/16	24	3 3/4	12 11/16	2 3/4			3 x 3/8	60.00
7 15/16	12 3/16	24	3 3/4	13 3/16	2 3/4			3 x 3/8	64.00

Prices for steel quills will be quoted upon application. For list prices of quill bearings, see page 39.

Ring Oiling Rigid Quill Bearings

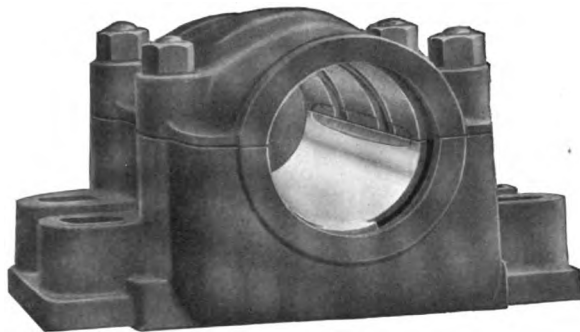
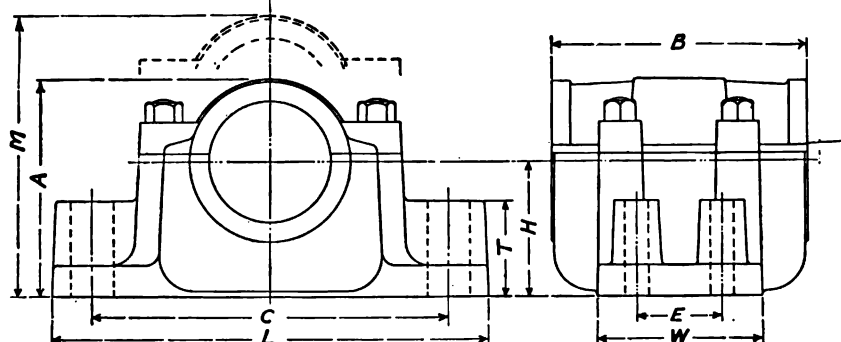


Fig. T-345



Price List

Quill Sizes, Inches	Shaft Sizes, Inches	List Price, Each	Dimensions in Inches									Bolts Required
			H*	B	L	W	T	A	M	C	E	
5 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	\$75.00	6 ³ / ₈	12	20 ¹ / ₂	6	4 ¹ / ₂	11	14	16 ³ / ₄		2—1
6 ³ / ₁₆	3 ¹ / ₁₆	85.00	7 ³ / ₈	14	22 ³ / ₄	8	5	12 ³ / ₄	16	18 ³ / ₄	4 ⁷ / ₈	4—1
6 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	95.00	7 ³ / ₈	14	22 ³ / ₄	8	5	12 ³ / ₄	16	18 ³ / ₄	4 ⁷ / ₈	4—1
7 ¹ / ₁₆	4 ¹ / ₁₆	120.00	7 ³ / ₄	16	25	9	6	14	18	20 ¹ / ₂	5 ¹ / ₈	4—1 ¹ / ₈
8 ³ / ₁₆	4 ¹⁵ / ₁₆	130.00	7 ³ / ₄	16	25	9	6	14	18	20 ¹ / ₂	5 ¹ / ₈	4—1 ¹ / ₈
8 ¹¹ / ₁₆	5 ¹ / ₁₆	155.00	8 ⁷ / ₈	18	27 ¹ / ₂	9 ¹ / ₂	6 ¹ / ₂	15 ³ / ₄	20	22 ¹ / ₂	6	4—1 ¹ / ₈
9 ³ / ₁₆	5 ¹⁵ / ₁₆	165.00	8 ⁷ / ₈	18	27 ¹ / ₂	9 ¹ / ₂	6 ¹ / ₂	15 ³ / ₄	20	22 ¹ / ₂	6	4—1 ¹ / ₈
10 ¹ / ₁₆	6 ¹ / ₁₆	200.00	10 ¹ / ₄	21	31	10 ¹ / ₂	7	18	23	25 ³ / ₄	7	4—1 ¹ / ₄
10 ¹¹ / ₁₆	6 ¹⁵ / ₁₆	215.00	10 ¹ / ₄	21	31	10 ¹ / ₂	7	18	23	25 ³ / ₄	7	4—1 ¹ / ₄
11 ¹ / ₁₆	7 ¹ / ₁₆	250.00	11 ⁵ / ₈	24	34	12	7 ¹ / ₂	20 ¹ / ₄	26	28 ¹ / ₄	8	4—1 ¹ / ₄
12 ³ / ₁₆	7 ¹⁵ / ₁₆	270.00	11 ⁵ / ₈	24	34	12	7 ¹ / ₂	20 ¹ / ₄	26	28 ¹ / ₄	8	4—1 ¹ / ₄

As very accurate alignment is essential in erecting and operating quill equipments, it is advisable to support these bearings on adjustable wedges so that adjustment for maintaining concentricity of quill with shaft can be easily accomplished. The above prices are for bearings only. For prices of wedge adjusting sling hangers, floor stands and base plates, refer to pages 34, 48, 49, and 52 respectively.

Fig. T-346 illustrates a rigid quill bearing supported on a wedge adjustable base plate.

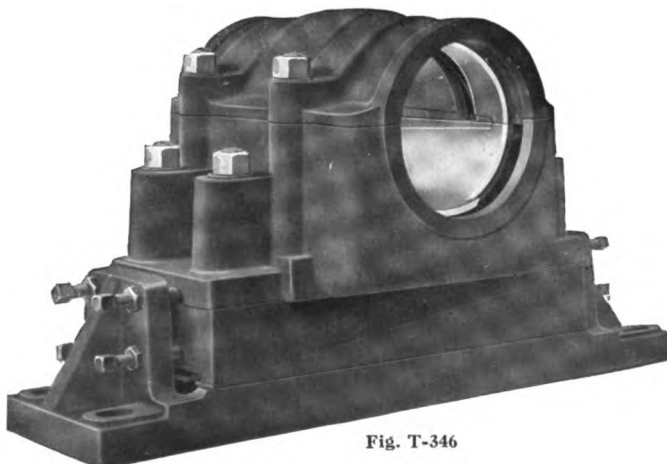


Fig. T-346

Extra Heavy Ring Oiling Rigid Pillow Blocks

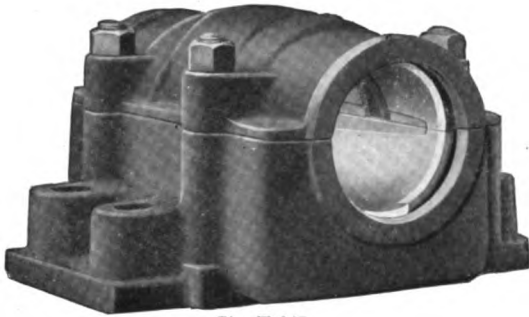


Fig. T-347

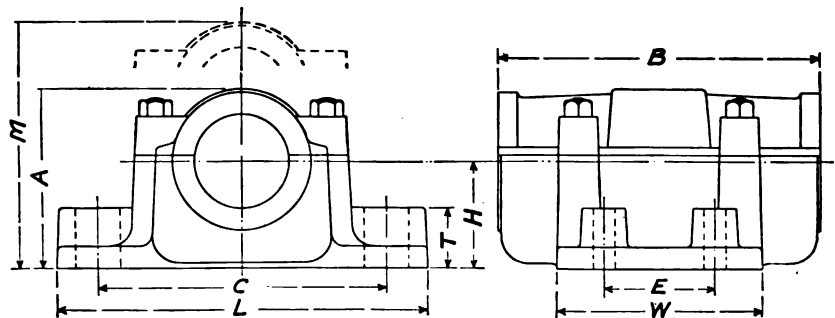
These pillow blocks are known as the three-piece type, composed of a base, liner or lower half of bearing proper and a cap. They are babbitted, finished accurately to size, ends faced for collars, bases machined, and are designed exclusively to support heavy main line and jack shafts.

A spherical or convex surface on underside of liner in center of bearing fits a mating or concave surface in center of base. This allows a ball and socket movement between the two parts and permits the liner to adjust itself to shaft alignment, and when cap bolts are tightened the bearing is made rigid.

In this bearing the liner may be removed from its position by revolving it around the shaft after cap has been removed and weight of shaft is sustained by outside support. This is an advantage if it should be necessary to rebabbitt, as the alignment of the bearing and shaft is not disturbed.

These bearings can be made dust proof at slight extra cost as per list page 23.

Sizes $3\frac{3}{16}$ inches and smaller have two slotted bolt holes in base. Sizes $3\frac{7}{16}$ inches and larger have four slotted bolt holes.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches									Bolts Required
		H	B	L	W	T	A	M	C	E	
2 $\frac{7}{16}$	\$10.90	3 $\frac{1}{8}$	9 $\frac{1}{4}$	11 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{7}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{4}$	8 $\frac{5}{8}$		2—3 $\frac{3}{4}$
2 $\frac{11}{16}$	13.35	3 $\frac{1}{8}$	9 $\frac{1}{4}$	11 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{7}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{4}$	8 $\frac{5}{8}$		2—3 $\frac{3}{4}$
2 $\frac{15}{16}$	16.50	3 $\frac{3}{4}$	11	13	6 $\frac{1}{2}$	2 $\frac{1}{8}$	6 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{3}{4}$		2—7 $\frac{8}{8}$
3 $\frac{3}{16}$	20.00	3 $\frac{3}{4}$	11	13	6 $\frac{1}{2}$	2 $\frac{1}{8}$	6 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{3}{4}$		2—7 $\frac{8}{8}$
3 $\frac{7}{16}$	24.50	4 $\frac{1}{4}$	12 $\frac{3}{4}$	14	7 $\frac{1}{2}$	2 $\frac{1}{2}$	7 $\frac{1}{2}$	9 $\frac{3}{4}$	10 $\frac{5}{8}$	4 $\frac{1}{16}$	4—3 $\frac{3}{4}$
3 $\frac{11}{16}$	30.00	4 $\frac{1}{4}$	12 $\frac{3}{4}$	14	7 $\frac{1}{2}$	2 $\frac{1}{2}$	7 $\frac{1}{2}$	9 $\frac{3}{4}$	10 $\frac{5}{8}$	4 $\frac{1}{16}$	4—3 $\frac{3}{4}$
3 $\frac{15}{16}$	35.60	4 $\frac{7}{8}$	14 $\frac{1}{2}$	15 $\frac{1}{2}$	8 $\frac{1}{2}$	2 $\frac{3}{4}$	8 $\frac{1}{4}$	11 $\frac{1}{4}$	11 $\frac{3}{4}$	4 $\frac{1}{8}$	4—7 $\frac{8}{8}$
4 $\frac{7}{16}$	46.65	5 $\frac{3}{8}$	16	17 $\frac{3}{4}$	9	3 $\frac{1}{4}$	9 $\frac{1}{4}$	12 $\frac{1}{2}$	13 $\frac{7}{8}$	5 $\frac{1}{8}$	4—1
4 $\frac{15}{16}$	60.00	5 $\frac{3}{8}$	16	17 $\frac{3}{4}$	9	3 $\frac{1}{4}$	9 $\frac{1}{4}$	12 $\frac{1}{2}$	13 $\frac{7}{8}$	5 $\frac{1}{8}$	4—1
5 $\frac{7}{16}$	73.50	6 $\frac{3}{4}$	19	20 $\frac{1}{2}$	9 $\frac{1}{2}$	4	11 $\frac{1}{4}$	14 $\frac{3}{4}$	16 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$
5 $\frac{15}{16}$	89.00	6 $\frac{3}{4}$	19	20 $\frac{1}{2}$	9 $\frac{1}{2}$	4	11 $\frac{1}{4}$	14 $\frac{3}{4}$	16 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$
6 $\frac{7}{16}$	104.50	7 $\frac{7}{8}$	22	22 $\frac{3}{4}$	10 $\frac{1}{2}$	5	13 $\frac{1}{4}$	17	18 $\frac{3}{4}$	7	4—1 $\frac{1}{8}$
6 $\frac{15}{16}$	120.00	7 $\frac{7}{8}$	22	22 $\frac{3}{4}$	10 $\frac{1}{2}$	5	13 $\frac{1}{4}$	17	18 $\frac{3}{4}$	7	4—1 $\frac{1}{8}$
7 $\frac{7}{16}$	135.50	8 $\frac{3}{8}$	25	25	12	5 $\frac{1}{2}$	14 $\frac{1}{4}$	18 $\frac{1}{4}$	20 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$
7 $\frac{15}{16}$	150.00	8 $\frac{3}{8}$	25	25	12	5 $\frac{1}{2}$	14 $\frac{1}{4}$	18 $\frac{1}{4}$	20 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$
8 $\frac{7}{16}$	170.00	10 $\frac{1}{4}$	21	31	11 $\frac{1}{4}$	7	18	23	25 $\frac{3}{4}$	7	4—1 $\frac{3}{8}$
8 $\frac{15}{16}$	180.00	10 $\frac{1}{4}$	21	31	11 $\frac{1}{4}$	7	18	23	25 $\frac{3}{4}$	7	4—1 $\frac{3}{8}$
9 $\frac{7}{16}$	200.00	11 $\frac{5}{8}$	24	34	12	7 $\frac{1}{2}$	20	25	28 $\frac{1}{4}$	8	4—1 $\frac{1}{2}$
9 $\frac{15}{16}$	215.00	11 $\frac{5}{8}$	24	34	12	7 $\frac{1}{2}$	20	25	28 $\frac{1}{4}$	8	4—1 $\frac{1}{2}$
10 $\frac{7}{16}$	245.00	12	24	36	12 $\frac{3}{4}$	7 $\frac{3}{4}$	21	27	29 $\frac{1}{4}$	8 $\frac{1}{4}$	4—1 $\frac{5}{8}$
10 $\frac{15}{16}$	265.00	12	24	36	12 $\frac{3}{4}$	7 $\frac{3}{4}$	21	27	29 $\frac{1}{4}$	8 $\frac{1}{4}$	4—1 $\frac{5}{8}$
11 $\frac{7}{16}$	300.00	12 $\frac{1}{2}$	24	37	13 $\frac{1}{2}$	8	22	28	30 $\frac{1}{4}$	8 $\frac{1}{2}$	4—1 $\frac{3}{4}$
11 $\frac{15}{16}$	320.00	12 $\frac{1}{2}$	24	37	13 $\frac{1}{2}$	8	22	28	30 $\frac{1}{4}$	8 $\frac{1}{2}$	4—1 $\frac{3}{4}$

Ring Oiling Rigid Pillow Blocks



Fig. T-348

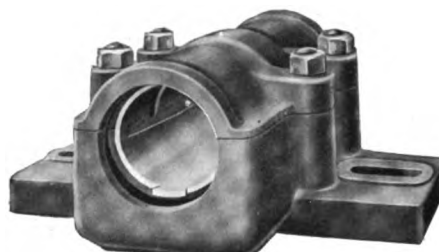


Fig. T-349

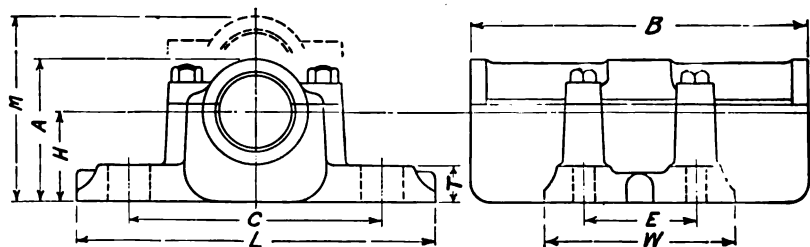
These pillow blocks are of a similar design and lighter construction than the extra heavy type (Fig. T-347) but the liner cannot be removed with the shaft in place. They are made in longer bearing lengths and are suitable for ordinary line shaft service.

The bearings are babbitted, finished accurately to size, ends faced for collars and bases finished.

Dust proof bearings of this type can be furnished at slight additional cost as per list page 23.

Sizes $3\frac{3}{16}$ inches and smaller (Fig. T-349) have two bolt holes in bases.

Sizes $3\frac{7}{16}$ inches and larger (Fig. T-348) have four bolt holes in bases.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches									Bolts Required
		H	B	L	W	T	A	M	C	E	
$1\frac{3}{16}$	\$ 4.00	$1\frac{5}{8}$	5	$7\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{1}{16}$	$2\frac{7}{8}$	$4\frac{1}{4}$	$5\frac{1}{2}$		2— $\frac{3}{8}$
$1\frac{7}{16}$	4.75	2	6	8	3	$\frac{3}{4}$	$3\frac{1}{2}$	5	$5\frac{1}{2}$		2— $\frac{1}{2}$
$1\frac{11}{16}$	5.40	$2\frac{1}{16}$	7	$8\frac{1}{2}$	$3\frac{1}{2}$	$\frac{3}{4}$	$3\frac{1}{2}$	5	$5\frac{7}{8}$		2— $\frac{1}{2}$
$1\frac{13}{16}$	6.00	$2\frac{1}{4}$	8	9	4	$1\frac{3}{16}$	4	$5\frac{3}{4}$	$6\frac{1}{2}$		2— $\frac{5}{8}$
$2\frac{3}{16}$	7.00	$2\frac{3}{8}$	9	$9\frac{1}{2}$	$4\frac{1}{2}$	$\frac{7}{8}$	$4\frac{1}{8}$	6	7		2— $\frac{5}{8}$
$2\frac{7}{16}$	8.25	$2\frac{3}{4}$	10	11	5	1	$4\frac{7}{8}$	$6\frac{3}{4}$	$8\frac{1}{4}$		2— $\frac{3}{4}$
$2\frac{11}{16}$	9.75	$2\frac{7}{8}$	11	$11\frac{1}{2}$	$5\frac{1}{2}$	$1\frac{1}{16}$	5	7	$8\frac{5}{8}$		2— $\frac{3}{4}$
$2\frac{15}{16}$	12.00	$3\frac{1}{16}$	12	$12\frac{1}{2}$	6	$1\frac{1}{16}$	$5\frac{1}{2}$	$7\frac{3}{4}$	$9\frac{3}{8}$		2— $\frac{7}{8}$
$3\frac{3}{16}$	13.50	$3\frac{1}{4}$	13	13	$6\frac{1}{2}$	$1\frac{1}{16}$	$5\frac{1}{2}$	$7\frac{3}{4}$	$9\frac{3}{4}$		2— $\frac{7}{8}$
$3\frac{7}{16}$	16.50	$3\frac{3}{8}$	14	$13\frac{1}{2}$	7	$1\frac{1}{16}$	6	$8\frac{1}{4}$	$10\frac{1}{4}$	$4\frac{1}{16}$	4— $\frac{3}{4}$
$3\frac{11}{16}$	19.00	$3\frac{1}{2}$	15	14	$7\frac{1}{2}$	$1\frac{1}{8}$	$6\frac{1}{8}$	$8\frac{1}{2}$	$10\frac{5}{8}$	$4\frac{1}{16}$	4— $\frac{3}{4}$
$3\frac{15}{16}$	23.00	$3\frac{7}{8}$	16	$14\frac{1}{2}$	8	$1\frac{3}{16}$	$6\frac{7}{8}$	$9\frac{1}{2}$	$11\frac{3}{8}$	$4\frac{7}{8}$	4— $\frac{7}{8}$
$4\frac{7}{16}$	30.00	$4\frac{5}{8}$	18	$16\frac{3}{4}$	9	$1\frac{1}{4}$	$8\frac{1}{4}$	11	$13\frac{1}{8}$	$5\frac{1}{8}$	4—1
$4\frac{15}{16}$	40.00	$4\frac{3}{4}$	20	$17\frac{3}{4}$	9	$1\frac{5}{16}$	$8\frac{3}{8}$	$11\frac{1}{4}$	$13\frac{7}{8}$	$5\frac{1}{8}$	4—1

Standard Rigid Pillow Blocks



Fig. T-350

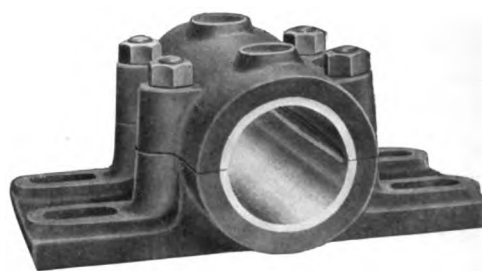


Fig. T-351

A very substantial line of plain pillow blocks with long babbitt lined bearings, finished accurately to size and ends faced.

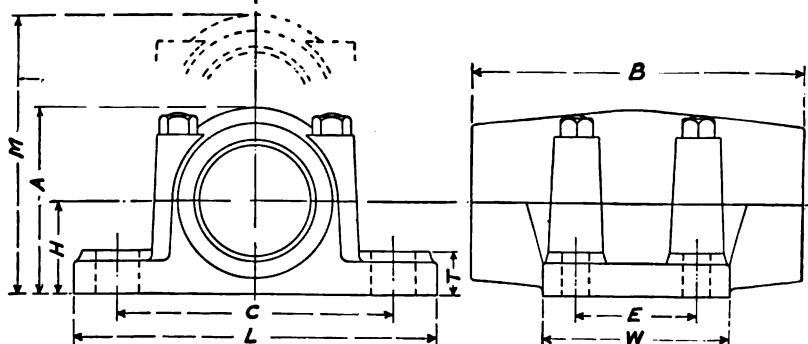
The oil holes are tapped to permit the use of grease cups, if desired.

Grease cups are not included in list prices and are not furnished unless specified.

Slotted holes in base provide for lateral adjustment.

Sizes $3\frac{3}{16}$ inches and smaller (Fig. T-350) have two bolt holes in bases.

Sizes $3\frac{7}{16}$ inches and larger (Fig. T-351) have four bolt holes in bases.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches									Bolts Required	No. and Size of Tapped Holes for Grease Cups
		H	B	L	W	T	A	M	C	E		
1 $\frac{3}{16}$	\$1.60	1 $\frac{1}{4}$	3 $\frac{3}{4}$	7 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{11}{16}$	2 $\frac{1}{2}$	3 $\frac{3}{4}$	5 $\frac{1}{4}$		2— $\frac{7}{16}$	1— $\frac{1}{4}$
1 $\frac{7}{16}$	2.00	1 $\frac{1}{2}$	4 $\frac{1}{2}$	8	3	$\frac{3}{4}$	3	4 $\frac{1}{2}$	5 $\frac{3}{4}$		2— $\frac{1}{2}$	1— $\frac{1}{4}$
1 $\frac{11}{16}$	2.60	1 $\frac{5}{8}$	5 $\frac{1}{4}$	8 $\frac{1}{2}$	3	$\frac{3}{4}$	3 $\frac{1}{4}$	4 $\frac{3}{4}$	6 $\frac{1}{4}$		2— $\frac{1}{2}$	1— $\frac{1}{4}$
1 $\frac{15}{16}$	3.60	1 $\frac{11}{16}$	6	10	4	$\frac{15}{16}$	3 $\frac{1}{2}$	5 $\frac{1}{4}$	7 $\frac{1}{4}$		2— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{3}{16}$	4.70	1 $\frac{7}{8}$	6 $\frac{3}{4}$	10	4	$\frac{15}{16}$	3 $\frac{7}{8}$	5 $\frac{1}{2}$	7 $\frac{1}{4}$		2— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{7}{16}$	5.50	2 $\frac{1}{8}$	7 $\frac{1}{2}$	11 $\frac{1}{4}$	4 $\frac{3}{4}$	1	4 $\frac{3}{8}$	6 $\frac{3}{8}$	8 $\frac{3}{8}$		2— $\frac{3}{4}$	1— $\frac{3}{8}$
2 $\frac{11}{16}$	7.00	2 $\frac{1}{4}$	8 $\frac{1}{4}$	11 $\frac{3}{4}$	4 $\frac{3}{4}$	1	4 $\frac{5}{8}$	6 $\frac{3}{4}$	8 $\frac{7}{8}$		2— $\frac{3}{4}$	1— $\frac{3}{8}$
2 $\frac{15}{16}$	8.75	2 $\frac{1}{2}$	9	12 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{8}$	5 $\frac{1}{8}$	7 $\frac{1}{4}$	9 $\frac{1}{4}$		2— $\frac{7}{8}$	1— $\frac{1}{2}$
3 $\frac{3}{16}$	11.00	2 $\frac{3}{4}$	9 $\frac{3}{4}$	13	6	1 $\frac{1}{8}$	5 $\frac{1}{2}$	7 $\frac{3}{4}$	9 $\frac{3}{4}$		2— $\frac{7}{8}$	1— $\frac{1}{2}$
3 $\frac{7}{16}$	13.00	3	10 $\frac{1}{2}$	13 $\frac{3}{4}$	6 $\frac{1}{2}$	$\frac{13}{16}$	6	8 $\frac{5}{8}$	10 $\frac{1}{2}$	4 $\frac{1}{16}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{11}{16}$	14.50	3 $\frac{1}{8}$	11 $\frac{1}{4}$	14	6 $\frac{3}{4}$	$\frac{13}{16}$	6 $\frac{1}{4}$	8 $\frac{7}{8}$	10 $\frac{3}{4}$	4 $\frac{1}{16}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{15}{16}$	16.00	3 $\frac{1}{4}$	12	15 $\frac{1}{4}$	8	$\frac{15}{16}$	6 $\frac{5}{8}$	9 $\frac{7}{8}$	11 $\frac{5}{8}$	4 $\frac{7}{8}$	4— $\frac{7}{8}$	1— $\frac{1}{2}$
4 $\frac{7}{16}$	21.00	3 $\frac{5}{8}$	13 $\frac{1}{2}$	17 $\frac{3}{4}$	9	1 $\frac{1}{2}$	7 $\frac{3}{8}$	11	13 $\frac{3}{4}$	5 $\frac{1}{8}$	4—1	1— $\frac{1}{2}$
4 $\frac{15}{16}$	27.50	4 $\frac{1}{8}$	15	17 $\frac{3}{4}$	9	1 $\frac{5}{8}$	8 $\frac{1}{8}$	12	13 $\frac{3}{4}$	5 $\frac{1}{8}$	4—1	1— $\frac{1}{2}$
5 $\frac{7}{16}$	34.00	4 $\frac{1}{2}$	16 $\frac{1}{2}$	20 $\frac{1}{2}$	9 $\frac{1}{2}$	1 $\frac{7}{8}$	8 $\frac{7}{8}$	13 $\frac{1}{4}$	15 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
5 $\frac{15}{16}$	42.00	5	18	20 $\frac{1}{2}$	9 $\frac{1}{2}$	2 $\frac{1}{8}$	9 $\frac{7}{8}$	14 $\frac{1}{2}$	15 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
6 $\frac{7}{16}$	50.00	5 $\frac{3}{8}$	19 $\frac{1}{2}$	22 $\frac{3}{4}$	10 $\frac{1}{2}$	2 $\frac{1}{4}$	10 $\frac{5}{8}$	15 $\frac{3}{4}$	18	7	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
6 $\frac{15}{16}$	60.00	5 $\frac{3}{4}$	21	22 $\frac{3}{4}$	10 $\frac{1}{2}$	2 $\frac{3}{8}$	11 $\frac{3}{8}$	16 $\frac{1}{2}$	18	7	4—1 $\frac{1}{8}$	3— $\frac{1}{2}$
7 $\frac{7}{16}$	70.00	6 $\frac{1}{4}$	22 $\frac{1}{2}$	25	12	2 $\frac{1}{2}$	12 $\frac{3}{8}$	18	19 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$	3— $\frac{1}{2}$
7 $\frac{15}{16}$	80.00	6 $\frac{3}{4}$	24	25	12	2 $\frac{3}{4}$	13	19	19 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$	3— $\frac{1}{2}$

Plain Flat Boxes

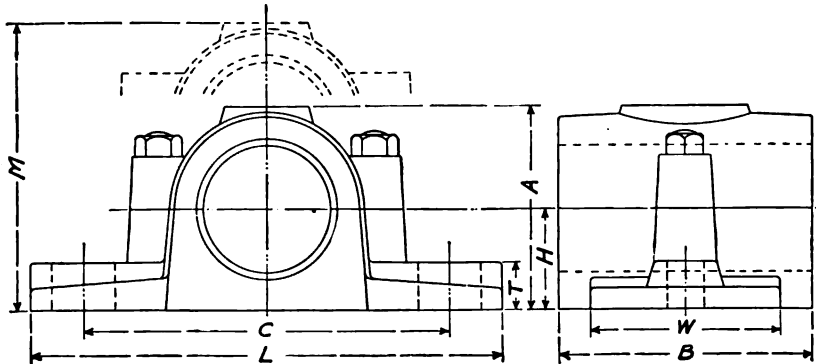


Fig. T-352

For light or medium service or for use when space on shafting is limited.

Oil cap is tapped to permit the use of grease cup if desired. Grease cups are not included in list prices and are not furnished unless specified.

Bearings are babbitted. Slotted holes in base provide for lateral adjustment.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches								Bolts Required	No. and Size of Tapped Holes for Grease Cups
		H	B	L	W	T	A	M	C		
$1\frac{5}{16}$	\$1.00	$1\frac{1}{8}$	2	6	$1\frac{1}{2}$	$\frac{5}{8}$	$2\frac{1}{8}$	$3\frac{1}{4}$	$4\frac{1}{2}$	2— $\frac{3}{8}$	1— $\frac{1}{4}$
$1\frac{3}{16}$	1.25	$1\frac{1}{4}$	$2\frac{1}{2}$	$7\frac{1}{4}$	$1\frac{7}{8}$	$\frac{11}{16}$	$2\frac{7}{16}$	$3\frac{3}{4}$	$5\frac{1}{4}$	2— $\frac{7}{16}$	1— $\frac{1}{4}$
$1\frac{1}{16}$	1.60	$1\frac{3}{8}$	3	8	$2\frac{1}{4}$	$\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	$5\frac{3}{4}$	2— $\frac{1}{2}$	1— $\frac{1}{4}$
$1\frac{1}{2}$	2.00	$1\frac{1}{2}$	$3\frac{1}{2}$	$8\frac{1}{2}$	$2\frac{5}{8}$	$\frac{13}{16}$	3	$4\frac{1}{2}$	$6\frac{1}{4}$	2— $\frac{1}{2}$	1— $\frac{1}{4}$
$1\frac{5}{8}$	2.35	$1\frac{3}{4}$	4	$9\frac{1}{2}$	3	$\frac{7}{8}$	$3\frac{1}{2}$	$5\frac{1}{4}$	$7\frac{1}{4}$	2— $\frac{5}{8}$	1— $\frac{3}{8}$
$2\frac{3}{16}$	2.80	$1\frac{7}{8}$	$4\frac{1}{2}$	$9\frac{3}{4}$	$3\frac{3}{8}$	$\frac{15}{16}$	$3\frac{3}{4}$	$5\frac{1}{2}$	$7\frac{1}{2}$	2— $\frac{5}{8}$	1— $\frac{3}{8}$
$2\frac{1}{2}$	3.35	2	5	$11\frac{1}{8}$	$3\frac{3}{4}$	1	4	6	$8\frac{1}{2}$	2— $\frac{3}{4}$	1— $\frac{3}{8}$
$2\frac{1}{8}$	4.00	$2\frac{1}{4}$	$5\frac{1}{2}$	$11\frac{3}{4}$	$4\frac{1}{8}$	$1\frac{1}{16}$	$4\frac{7}{16}$	$6\frac{1}{2}$	9	2— $\frac{3}{4}$	1— $\frac{3}{8}$
$2\frac{1}{2}$	5.00	$2\frac{3}{8}$	6	$12\frac{1}{2}$	$4\frac{1}{2}$	$1\frac{1}{8}$	$4\frac{3}{4}$	7	$9\frac{1}{2}$	2— $\frac{7}{8}$	1— $\frac{1}{2}$
$3\frac{3}{16}$	6.25	$2\frac{1}{2}$	$6\frac{1}{2}$	13	$4\frac{7}{8}$	$1\frac{3}{16}$	5	$7\frac{1}{4}$	10	2— $\frac{7}{8}$	1— $\frac{1}{2}$
$3\frac{1}{16}$	7.75	$2\frac{3}{4}$	7	14	$5\frac{1}{4}$	$1\frac{1}{4}$	$5\frac{1}{2}$	$8\frac{1}{8}$	11	2—1	1— $\frac{1}{2}$
$3\frac{1}{8}$	9.50	$2\frac{7}{8}$	$7\frac{1}{2}$	$14\frac{1}{2}$	$5\frac{5}{8}$	$1\frac{3}{8}$	$5\frac{7}{8}$	$8\frac{1}{2}$	$11\frac{1}{2}$	2—1	1— $\frac{1}{2}$
$3\frac{1}{2}$	11.75	$3\frac{1}{8}$	8	16	6	$1\frac{1}{2}$	$6\frac{3}{8}$	$9\frac{3}{8}$	$12\frac{1}{2}$	2—1	1— $\frac{1}{2}$

Solid Journal Boxes



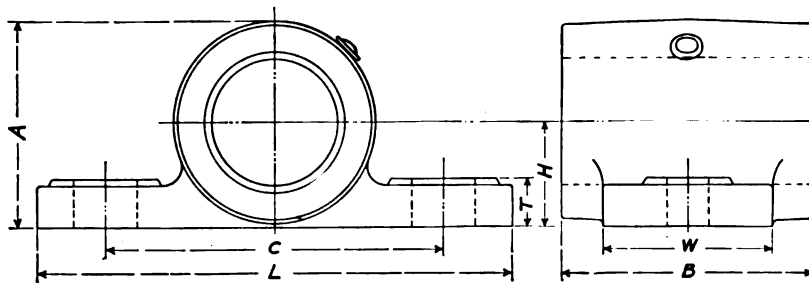
Fig. T-353
Plain Bored Bearing



Fig. T-354
Babbitt Lined Bearing

These bearings are fitted with Bennett oilers set at an angle of 45 degrees and can be used either as pillow blocks or post boxes.

Slotted holes in bases provide for lateral adjustment.



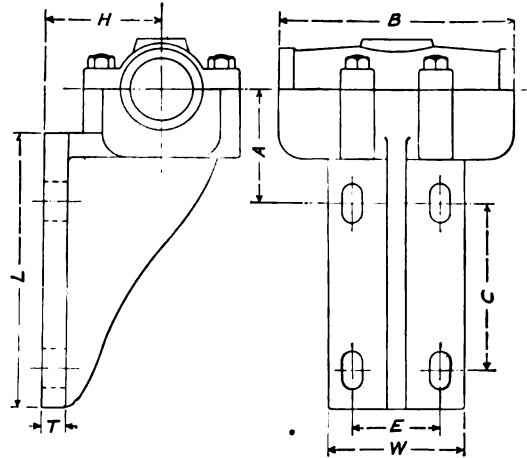
Price List

Shaft Sizes, Inches	List Prices		Dimensions in Inches							Bolts Required
	Fig. T-353	Fig. T-354	H	B	L	W	T	A	C	
$1\frac{5}{16}$	\$.80	\$.90	$1\frac{5}{16}$	2	$4\frac{1}{2}$	$1\frac{1}{4}$	$\frac{5}{8}$	$1\frac{3}{4}$	3	2— $\frac{3}{8}$
$1\frac{3}{8}$	1.00	1.15	$1\frac{1}{8}$	$2\frac{1}{2}$	$5\frac{1}{4}$	$1\frac{1}{8}$	$\frac{3}{4}$	$2\frac{1}{8}$	$3\frac{1}{2}$	2— $\frac{3}{8}$
$1\frac{7}{16}$	1.30	1.45	$1\frac{3}{8}$	3	$6\frac{3}{8}$	$1\frac{7}{8}$	$\frac{7}{8}$	$2\frac{9}{16}$	$4\frac{1}{4}$	2— $\frac{1}{2}$
$1\frac{11}{16}$	1.60	1.80	$1\frac{9}{16}$	$3\frac{1}{2}$	7	$2\frac{1}{4}$	$\frac{7}{8}$	$2\frac{15}{16}$	$4\frac{3}{4}$	2— $\frac{1}{2}$
$1\frac{15}{16}$	1.90	2.10	$1\frac{3}{4}$	4	$7\frac{3}{4}$	$2\frac{1}{2}$	1	$3\frac{3}{8}$	$5\frac{1}{4}$	2— $\frac{5}{8}$
$2\frac{3}{16}$	2.50	2.50	$1\frac{15}{16}$	$4\frac{1}{2}$	8	$2\frac{7}{8}$	$1\frac{1}{8}$	$3\frac{11}{16}$	$5\frac{1}{2}$	2— $\frac{5}{8}$
$2\frac{7}{16}$	3.10	3.10	$2\frac{1}{8}$	5	$8\frac{3}{4}$	$3\frac{1}{8}$	$1\frac{1}{8}$	4	6	2— $\frac{3}{4}$
$2\frac{11}{16}$	3.65	3.65	$2\frac{5}{16}$	$5\frac{1}{2}$	$9\frac{1}{4}$	$3\frac{1}{2}$	$1\frac{1}{8}$	$4\frac{1}{2}$	$6\frac{3}{8}$	2— $\frac{3}{4}$
$2\frac{15}{16}$	4.75	4.75	$2\frac{1}{2}$	6	$10\frac{1}{2}$	$3\frac{3}{4}$	$1\frac{3}{8}$	$4\frac{7}{8}$	$7\frac{1}{4}$	2— $\frac{7}{8}$
$3\frac{3}{16}$	6.00	6.00	$2\frac{11}{16}$	$6\frac{1}{2}$	$11\frac{1}{2}$	$4\frac{1}{8}$	$1\frac{3}{8}$	$5\frac{1}{4}$	8	2— $\frac{7}{8}$
$3\frac{7}{16}$	7.50	7.50	$2\frac{7}{8}$	7	12	$4\frac{3}{8}$	$1\frac{3}{8}$	$5\frac{5}{8}$	$8\frac{1}{2}$	2— $\frac{7}{8}$
$3\frac{11}{16}$	9.00	9.00	$3\frac{1}{16}$	$7\frac{1}{2}$	$12\frac{1}{2}$	$4\frac{3}{4}$	$1\frac{7}{8}$	6	9	2— $\frac{7}{8}$
$3\frac{15}{16}$	10.75	10.75	$3\frac{1}{4}$	8	13	5	$1\frac{1}{2}$	$6\frac{3}{8}$	$9\frac{1}{2}$	2— $\frac{7}{8}$

Ring-Oiling Rigid Post Boxes



Fig. T-355



An excellent bearing of the ring oiling type.

Babbitted and finished accurately to size, ends faced for collars and back finished.

Slotted holes in back of frame provide for vertical adjustment.

Bearings may be furnished dust proof at slight additional cost as per list page 23.

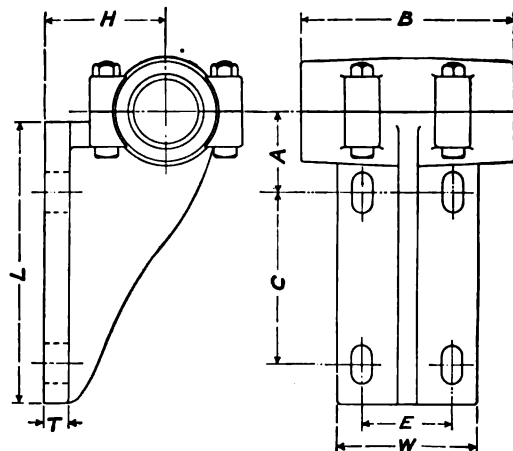
Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches								Bolts Required
		H	B	L	W	T	A	C	E	
1 $\frac{7}{16}$	4.90	3 $\frac{1}{2}$	6 $\frac{1}{4}$	7 $\frac{1}{4}$	3 $\frac{1}{2}$	5 $\frac{5}{8}$	3 $\frac{1}{8}$	4 $\frac{3}{8}$	2 $\frac{1}{8}$	4— $\frac{1}{2}$
1 $\frac{11}{16}$	5.20	3 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{4}$	3 $\frac{1}{2}$	5 $\frac{5}{8}$	3 $\frac{1}{8}$	4 $\frac{3}{8}$	2 $\frac{1}{8}$	4— $\frac{1}{2}$
1 $\frac{15}{16}$	7.20	4	8 $\frac{3}{8}$	9	4 $\frac{1}{2}$	3 $\frac{1}{4}$	3 $\frac{3}{8}$	5 $\frac{3}{4}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$
2 $\frac{3}{16}$	8.50	4	9 $\frac{7}{16}$	9	4 $\frac{1}{2}$	3 $\frac{1}{4}$	3 $\frac{1}{2}$	5 $\frac{3}{4}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$
2 $\frac{7}{16}$	11.50	4 $\frac{1}{2}$	10 $\frac{7}{16}$	10 $\frac{1}{4}$	5 $\frac{1}{2}$	7 $\frac{7}{8}$	4 $\frac{1}{16}$	6 $\frac{3}{8}$	3 $\frac{1}{2}$	4— $\frac{3}{4}$
2 $\frac{11}{16}$	14.25	4 $\frac{1}{2}$	11 $\frac{1}{2}$	10 $\frac{1}{4}$	5 $\frac{1}{2}$	7 $\frac{7}{8}$	4 $\frac{3}{16}$	6 $\frac{3}{8}$	3 $\frac{1}{2}$	4— $\frac{3}{4}$
2 $\frac{15}{16}$	18.25	5	12 $\frac{3}{8}$	11	6 $\frac{1}{2}$	7 $\frac{7}{8}$	4 $\frac{7}{16}$	7	4 $\frac{3}{8}$	4— $\frac{3}{4}$
3 $\frac{3}{16}$	20.50	5	13 $\frac{3}{8}$	11	6 $\frac{1}{2}$	7 $\frac{7}{8}$	4 $\frac{5}{8}$	7	4 $\frac{3}{8}$	4— $\frac{3}{4}$
3 $\frac{7}{16}$	23.50	5 $\frac{1}{4}$	14 $\frac{1}{2}$	11 $\frac{5}{8}$	7 $\frac{1}{2}$	15 $\frac{15}{16}$	5	7 $\frac{1}{4}$	5 $\frac{1}{4}$	4— $\frac{7}{8}$
3 $\frac{11}{16}$	26.75	5 $\frac{1}{4}$	15 $\frac{1}{2}$	11 $\frac{5}{8}$	7 $\frac{1}{2}$	15 $\frac{15}{16}$	5 $\frac{1}{8}$	7 $\frac{1}{4}$	5 $\frac{1}{4}$	4— $\frac{7}{8}$
3 $\frac{15}{16}$	33.00	6	16 $\frac{1}{2}$	12 $\frac{1}{8}$	8 $\frac{1}{2}$	1	5 $\frac{3}{16}$	7 $\frac{1}{2}$	6	4—1
4 $\frac{7}{16}$	42.50	6 $\frac{1}{2}$	18 $\frac{3}{8}$	13 $\frac{1}{2}$	9	1 $\frac{1}{8}$	6 $\frac{1}{2}$	8 $\frac{1}{4}$	6 $\frac{1}{4}$	4—1 $\frac{1}{8}$
4 $\frac{15}{16}$	54.00	6 $\frac{1}{2}$	20 $\frac{9}{16}$	13 $\frac{1}{2}$	9	1 $\frac{1}{8}$	6 $\frac{5}{8}$	8 $\frac{1}{4}$	6 $\frac{1}{4}$	4—1 $\frac{1}{8}$

Standard Rigid Post Boxes



Fig. T-356



A very substantial line of plain babbitted rigid post bearings finished accurately to size and ends faced.

The oil holes in cap are tapped to permit the use of grease cups if desired.

Grease cups are not included in list prices and are not furnished unless specified.

Slotted holes in back of frame provide for vertical adjustment.

Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches								Bolts Required	No. and Size of Tapped Holes for Grease Cups
		H	B	L	W	T	A	C	E		
1 $\frac{3}{16}$	\$3.30	2 $\frac{1}{2}$	3 $\frac{3}{4}$	5 $\frac{7}{8}$	3	$\frac{1}{2}$	1 $\frac{11}{16}$	3 $\frac{1}{2}$	1 $\frac{7}{8}$	4— $\frac{3}{8}$	1— $\frac{1}{4}$
1 $\frac{7}{16}$	3.70	3 $\frac{1}{2}$	4 $\frac{1}{2}$	7 $\frac{1}{4}$	3 $\frac{1}{2}$	$\frac{5}{8}$	2 $\frac{3}{16}$	4 $\frac{3}{8}$	2 $\frac{1}{8}$	4— $\frac{1}{2}$	1— $\frac{1}{4}$
1 $\frac{11}{16}$	4.00	3 $\frac{1}{2}$	5 $\frac{1}{4}$	7 $\frac{1}{4}$	3 $\frac{1}{2}$	$\frac{5}{8}$	2 $\frac{3}{16}$	4 $\frac{3}{8}$	2 $\frac{1}{8}$	4— $\frac{1}{2}$	1— $\frac{1}{4}$
1 $\frac{15}{16}$	5.70	4	6	9	4 $\frac{1}{2}$	$\frac{3}{4}$	2 $\frac{5}{8}$	5 $\frac{3}{4}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{3}{16}$	6.75	4	6 $\frac{3}{4}$	9	4 $\frac{1}{2}$	$\frac{3}{4}$	2 $\frac{5}{8}$	5 $\frac{3}{4}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{7}{16}$	8.25	4 $\frac{1}{2}$	7 $\frac{1}{2}$	10 $\frac{1}{4}$	5 $\frac{1}{2}$	$\frac{7}{8}$	3 $\frac{1}{8}$	6 $\frac{3}{8}$	3 $\frac{1}{2}$	4— $\frac{3}{4}$	1— $\frac{3}{8}$
2 $\frac{11}{16}$	9.00	4 $\frac{1}{2}$	8 $\frac{1}{4}$	10 $\frac{1}{4}$	5 $\frac{1}{2}$	$\frac{7}{8}$	3 $\frac{1}{8}$	6 $\frac{3}{8}$	3 $\frac{1}{2}$	4— $\frac{3}{4}$	1— $\frac{3}{8}$
2 $\frac{15}{16}$	10.50	5	9	11	6 $\frac{1}{2}$	$\frac{7}{8}$	3 $\frac{1}{8}$	7	4 $\frac{3}{8}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{3}{16}$	12.50	5	9 $\frac{3}{4}$	11	6 $\frac{1}{2}$	$\frac{7}{8}$	3 $\frac{1}{8}$	7	4 $\frac{3}{8}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{7}{16}$	14.75	5 $\frac{1}{4}$	10 $\frac{1}{2}$	11 $\frac{5}{8}$	7 $\frac{1}{2}$	$\frac{15}{16}$	3 $\frac{11}{16}$	7 $\frac{1}{4}$	5 $\frac{1}{4}$	4— $\frac{7}{8}$	1— $\frac{1}{2}$
3 $\frac{11}{16}$	17.50	5 $\frac{1}{4}$	11 $\frac{1}{4}$	11 $\frac{5}{8}$	7 $\frac{1}{2}$	$\frac{15}{16}$	3 $\frac{11}{16}$	7 $\frac{1}{4}$	5 $\frac{1}{4}$	4— $\frac{7}{8}$	1— $\frac{1}{2}$
3 $\frac{15}{16}$	22.00	6	12	12 $\frac{1}{8}$	8 $\frac{1}{2}$	1	4 $\frac{1}{8}$	7 $\frac{1}{2}$	6	4—1	1— $\frac{1}{2}$
4 $\frac{7}{16}$	31.00	6 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	9	1 $\frac{1}{8}$	4 $\frac{1}{2}$	8 $\frac{1}{4}$	6 $\frac{1}{4}$	4—1 $\frac{1}{8}$	1— $\frac{1}{2}$
4 $\frac{15}{16}$	42.00	6 $\frac{1}{2}$	15	13 $\frac{1}{2}$	9	1 $\frac{1}{8}$	4 $\frac{7}{8}$	8 $\frac{1}{4}$	6 $\frac{1}{4}$	4—1 $\frac{1}{8}$	1— $\frac{1}{2}$

Cast Iron Wall Brackets

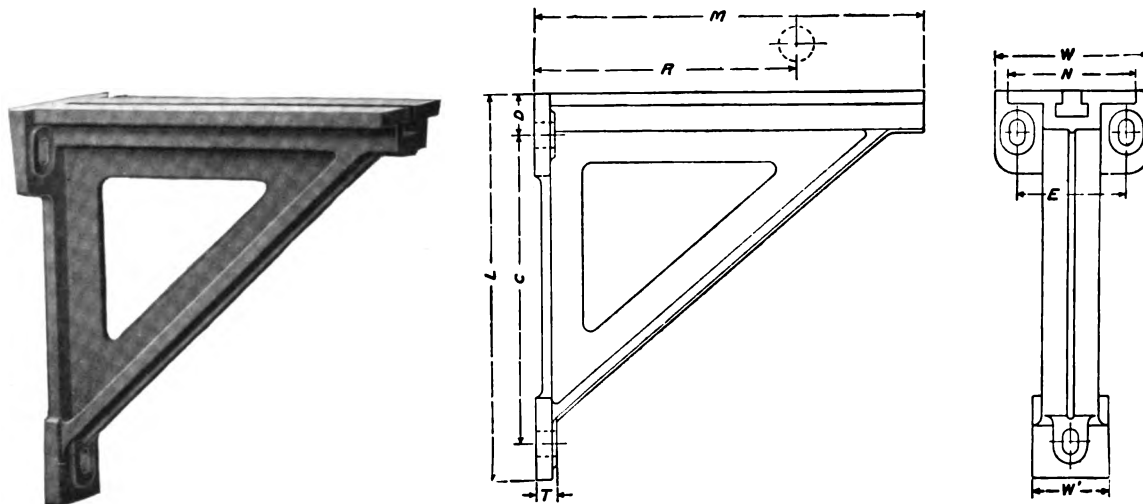


Fig. T-357

An extra strong bracket designed to support pillow blocks carrying line shafting.

Ample provision is made for securing both vertical and lateral adjustment.

Pillow blocks with two bolt holes in base are attached by bolts fitted in slot which runs the entire length of top. When pillow blocks have four bolt holes in base, stud bolts are tapped into top of bracket to suit pillow block.

Price List

Shaft Sizes Inches	Reach R* Inches		List Prices	Dimensions in Inches										Bolts Required
	Adj. Pillow Blocks	Rigid Pillow Blocks		M	N	L	W	W'	T	D	C	E	Pillow Block Bolts	
1 7/16 to 2 5/16	12	14	\$10.00	19	4 3/4	18	6 1/2	3	7/8	2 1/2	13 3/4	4 1/2	5/8	3— 5/8
	18	20	13.35	25	4 3/4	24	6 1/2	3	7/8	2 1/2	19 3/4	4 1/2	5/8	3— 5/8
	24	26	16.70	31	4 3/4	27	7	3	1	2 3/4	22 1/4	4 3/4	5/8	3— 3/4
	30	32	20.00	37	4 3/4	33	7	3	1	2 3/4	28 1/4	4 3/4	5/8	3— 3/4
	36	38	24.40	43	4 3/4	36	7 3/4	3	1 1/8	2 3/4	31 1/4	5 1/4	5/8	3— 7/8
2 1/16 to 3 1/16	12	14	17.80	21	6 1/2	18	7 1/2	4	1 1/8	2 3/4	13 1/2	5 1/4	7/8	3— 3/4
	18	20	22.20	27	6 1/2	24	7 1/2	4	1 1/8	2 3/4	19 1/2	5 1/4	7/8	3— 3/4
	24	26	27.80	33	6 1/2	27	8	4	1 1/4	3	22	5 1/2	7/8	3— 7/8
	30	32	34.50	39	6 1/2	33	8	4	1 1/4	3	28	5 1/2	7/8	3— 7/8
	36	38	40.00	45	6 1/2	36	9	4	1 3/8	3	30 3/4	6	7/8	3—1
3 1/16 to 3 15/16	12	16	25.00	24	8 1/2	20	8 3/4	4 1/2	1 1/8	3	14 7/8	6	1 1/8	3— 7/8
	18	22	32.00	30	8 1/2	26	8 3/4	4 1/2	1 1/8	3	20 7/8	6	1 1/8	3— 7/8
	24	28	37.80	36	8 1/2	29	9	4 1/2	1 1/4	3	23 7/8	6 1/8	1 1/8	3—1
	30	34	45.00	42	8 1/2	35	9	4 1/2	1 1/4	3	29 7/8	6 1/8	1 1/8	3—1
	36	40	54.00	48	8 1/2	38	9 3/4	4 1/2	1 3/8	3 1/4	32 1/2	6 3/4	1 1/8	3—1 1/8
4 1/16 to 4 15/16	18	22	37.40	32	9	28	9 3/4	5	1 3/8	3 1/4	22 1/2	6 3/4	1 1/4	3—1 1/8
	24	28	46.20	38	9	31	9 3/4	5	1 3/8	3 1/4	25 1/2	6 3/4	1 1/4	3—1 1/8
	30	34	57.00	44	9	37	10 1/2	5	1 1/2	3 1/2	31	7	1 1/4	3—1 1/4
	36	40	66.00	50	9	40	10 1/2	5	1 1/2	3 1/2	34	7	1 1/4	3—1 1/4

*R as given is for largest size pillow block for which bracket is desired. For smaller size pillow blocks, R will equal M minus one half of L dimension of pillow block.

Floor Stands, Plain and Wedge Adjusting

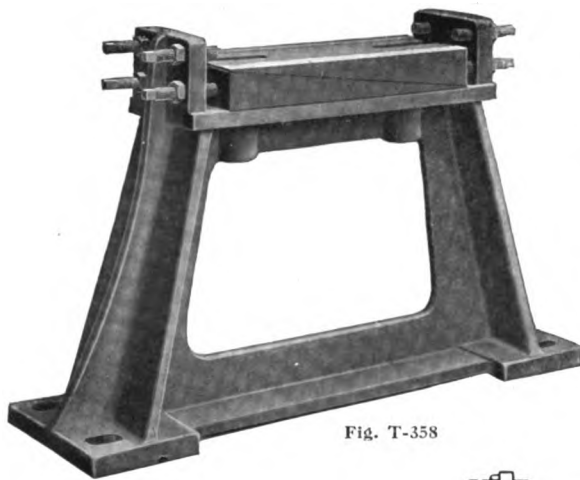
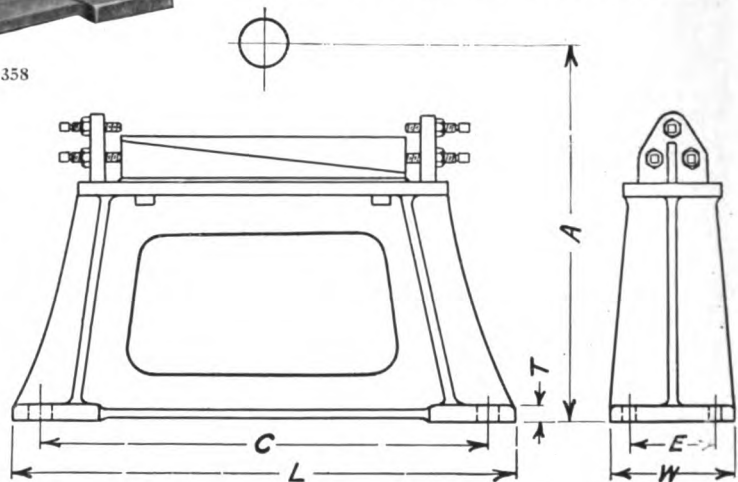


Fig. T-358

These frames have either two or four bolt holes in top to accommodate pillow blocks to be fitted.

Height from base to center of shaft is given in the following tables. The height varies with the style of pillow block used, making it necessary to list the frame with each type of pillow block for which it is adapted.



Price List

FOR USE WITH EXTRA HEAVY RIGID RING OILING PILLOW BLOCKS (FIG. T-347)											FOR USE WITH RIGID RING OILING QUILL BEARINGS (FIG. T-345)										
Shaft Sizes, Inches	A		Dimensions in Inches						List Prices		Quill Sizes, Inches*	A		Dimensions in Inches						List Prices	
	Plain	Wedge Adjusting	L	C	W	E	T	Bolts Re- quired	Plain	Wedge Adjusting		Plain	Wedge Adjusting	L	C	W	E	T	Bolts Re- quired	Plain	Wedge Adjusting
2 ¹⁵ / ₁₆ and 3 ¹ / ₁₆	21 ⁷ / ₈	24	33	29	8	5	1 ¹ / ₂	4— ³ / ₄	\$55.00	\$62.50	5 ¹¹ / ₁₆	20 ¹³ / ₁₆	24	36	32	8	5	1 ¹ / ₂	4— ³ / ₄	\$60.00	\$67.50
	27 ¹ / ₈	30	33	29	8	5	1 ¹ / ₂	4— ³ / ₄	57.50	65.00		26 ¹³ / ₁₆	30	36	32	8	5	1 ¹ / ₂	4— ³ / ₄	62.50	70.00
	33 ¹ / ₈	36	35	31	9	6	1 ¹ / ₂	4— ³ / ₄	62.50	70.00		32 ¹³ / ₁₆	36	38	34	9	6	1 ¹ / ₂	4— ³ / ₄	67.50	75.00
	39 ¹ / ₈	42	35	31	9	6	1 ¹ / ₂	4— ³ / ₄	67.50	75.00		38 ¹³ / ₁₆	42	38	34	9	6	1 ¹ / ₂	4— ³ / ₄	72.50	80.00
3 ³ / ₁₆ and 3 ¹¹ / ₁₆	21 ³ / ₄	24	34	29 ¹ / ₂	9	6	1 ¹ / ₄	4— ⁷ / ₈	62.50	72.50	6 ³ / ₁₆	20 ¹ / ₂	24	40	35 ¹ / ₂	9	6	1 ¹ / ₄	4— ⁷ / ₈	67.50	77.50
	27 ³ / ₄	30	34	29 ¹ / ₂	9	6	1 ¹ / ₄	4— ⁷ / ₈	65.00	75.00		26 ¹ / ₂	30	40	35 ¹ / ₂	9	6	1 ¹ / ₄	4— ⁷ / ₈	70.00	80.00
	33 ³ / ₄	36	38	33 ¹ / ₂	10	7	1 ¹ / ₄	4— ⁷ / ₈	72.50	82.50		32 ¹ / ₂	36	44	39 ¹ / ₂	10	7	1 ¹ / ₄	4— ⁷ / ₈	77.50	87.50
	39 ³ / ₄	42	38	33 ¹ / ₂	10	7	1 ¹ / ₄	4— ⁷ / ₈	80.00	90.00		38 ¹ / ₂	42	44	39 ¹ / ₂	10	7	1 ¹ / ₄	4— ⁷ / ₈	85.00	95.00
3 ¹⁵ / ₁₆	21 ¹ / ₂	24	36	31	10	6	1 ¹ / ₈	4—1	67.00	79.00	6 ¹¹ / ₁₆	20 ¹ / ₄	24	43	38	10	6	1 ¹ / ₈	4—1	73.00	85.00
	27 ¹ / ₂	30	36	31	10	6	1 ¹ / ₈	4—1	72.00	84.00		26 ¹ / ₄	30	43	38	10	6	1 ¹ / ₈	4—1	78.00	90.00
	33 ¹ / ₂	36	40	35	11	7	1 ¹ / ₈	4—1	79.50	91.50		32 ¹ / ₄	36	48	43	11	7	1 ¹ / ₈	4—1	85.50	97.50
	39 ¹ / ₂	42	40	35	11	7	1 ¹ / ₈	4—1	87.00	99.00		38 ¹ / ₄	42	48	43	11	7	1 ¹ / ₈	4—1	93.00	105.00
4 ⁷ / ₁₆ and 4 ¹⁵ / ₁₆	21 ¹ / ₄	24	38	33	11	7	1 ¹ / ₂	4—1 ¹ / ₂	72.00	87.00	7 ⁷ / ₁₆ and 8 ¹ / ₁₆	20 ¹ / ₈	24	44	39	11	7	1 ¹ / ₂	4—1 ¹ / ₂	80.00	95.00
	27 ¹ / ₄	30	38	33	11	7	1 ¹ / ₂	4—1 ¹ / ₂	82.00	97.00		26 ¹ / ₈	30	44	39	11	7	1 ¹ / ₂	4—1 ¹ / ₂	90.00	105.00
	33 ¹ / ₄	36	42	37	12	8	1 ¹ / ₂	4—1 ¹ / ₂	92.00	107.00		32 ¹ / ₈	36	50	45	12	8	1 ¹ / ₂	4—1 ¹ / ₂	100.00	115.00
	39 ¹ / ₄	42	42	37	12	8	1 ¹ / ₂	4—1 ¹ / ₂	102.00	117.00		38 ¹ / ₈	42	50	45	12	8	1 ¹ / ₂	4—1 ¹ / ₂	110.00	125.00
5 ⁷ / ₁₆ and 5 ¹⁵ / ₁₆	26 ¹³ / ₁₆	30	40	34	13	8	1 ³ / ₄	4—1 ¹ / ₄	115.00	135.00	8 ¹¹ / ₁₆ and 9 ¹ / ₁₆	25 ¹⁵ / ₁₆	30	50	44	13	8	1 ³ / ₄	4—1 ¹ / ₄	125.00	145.00
	32 ¹³ / ₁₆	36	44	38	14	9	1 ³ / ₄	4—1 ¹ / ₄	127.50	147.50		31 ¹⁵ / ₁₆	36	54	48	14	9	1 ³ / ₄	4—1 ¹ / ₄	137.50	157.50
	38 ¹³ / ₁₆	42	44	38	14	9	1 ³ / ₄	4—1 ¹ / ₄	140.00	160.00		37 ¹⁵ / ₁₆	42	54	48	14	9	1 ³ / ₄	4—1 ¹ / ₄	150.00	170.00
6 ⁷ / ₁₆ and 6 ¹⁵ / ₁₆	26 ¹ / ₂	30	42	36	15	10	1 ⁷ / ₈	4—1 ³ / ₈	160.00	185.00	10 ¹⁵ / ₁₆ and 11 ¹ / ₁₆	25 ¹ / ₂	30	56	50	15	10	1 ⁷ / ₈	4—1 ³ / ₈	175.00	200.00
	32 ¹ / ₂	36	46	40	16	11	2	4—1 ³ / ₈	175.00	200.00		31 ¹ / ₂	36	60	54	16	11	2	4—1 ³ / ₈	190.00	215.00
	38 ¹ / ₂	42	46	40	16	11	2	4—1 ³ / ₈	190.00	215.00		37 ¹ / ₂	42	60	54	16	11	2	4—1 ³ / ₈	205.00	230.00
7 ⁷ / ₁₆ and 7 ¹⁵ / ₁₆	26 ¹ / ₄	30	46	40	15	10	1 ⁷ / ₈	4—1 ³ / ₈	175.00	205.00	12 ¹⁵ / ₁₆	25 ¹ / ₄	30	56	50	15	10	1 ⁷ / ₈	4—1 ³ / ₈	195.00	225.00
	32 ¹ / ₄	36	50	44	16	11	2	4—1 ³ / ₈	190.00	220.00		31 ¹ / ₄	36	60	54	16	11	2	4—1 ³ / ₈	210.00	240.00
	38 ¹ / ₄	42	50	44	16	11	2	4—1 ³ / ₈	210.00	240.00		37 ¹ / ₄	42	60	54	16	11	2	4—1 ³ / ₈	230.00	260.00

*See Page 38, Dimension A.



Floor Stands, Plain and Wedge Adjusting

FOR USE WITH STANDARD RIGID PILLOW BLOCKS (FIG. T-350 AND T-351)											FOR USE WITH BALL AND SOCKET RING OILING PILLOW BLOCKS (FIG. T-342)																					
Shaft Sizes, Inches	A		Dimensions in Inches						List Prices		Shaft Sizes, Inches	A		Dimensions in Inches						List Prices												
	Plain	Wedge Adjusting	L	C	W	E	T	Bolts Re-quired	Plain	Wedge Adjusting		Plain	Wedge Adjusting	L	C	W	E	T	Bolts Re-quired	Plain	Wedge Adjusting											
2 15/16 and 3 1/16*	20 3/8	22 3/4	33	29	8	5	1 1/8	4- 3/4	\$55.00	\$62.50	2 15/16 and 3 1/16	19 1/16	22 7/16	36	32	8	5	1 1/8	4- 3/4	\$60.00	\$67.50	3 7/16 and 3 11/16	19 1/8	22 1/4	40	35 1/2	9	6	1 1/4	4- 7/8	67.50	77.50
	26 3/8	28 3/4	33	29	8	5	1 1/8	4- 3/4	57.50	65.00		25 1/16	28 7/16	36	32	8	5	1 1/8	4- 3/4	62.50	70.00		25 1/8	28 1/4	40	35 1/2	9	6	1 1/4	4- 7/8	70.00	80.00
	32 3/8	34 3/4	35	31	9	6	1 1/8	4- 3/4	62.50	70.00		31 1/16	34 7/16	38	34	9	6	1 1/8	4- 3/4	67.50	75.00		31 1/8	34 1/4	44	39 1/2	10	7	1 1/4	4- 7/8	77.50	87.50
	38 3/8	40 3/4	35	31	9	6	1 1/8	4- 3/4	67.50	75.00		37 1/16	40 7/16	38	34	9	6	1 1/8	4- 3/4	72.50	80.00		37 1/8	40 1/4	44	39 1/2	10	7	1 1/4	4- 7/8	85.00	95.00
3 7/16 and 3 11/16*	20 1/2	22 3/4	34	29 1/2	9	6	1 1/4	4- 7/8	62.50	72.50	3 7/16 and 3 11/16	19 3/8	23 3/8	43	38	10	6	1 3/8	4- 1	73.00	85.00	4 7/16 and 4 11/16	19 3/4	23 3/4	43	38	10	6	1 3/8	4- 1	73.00	85.00
	26 1/2	28 3/4	34	29 1/2	9	6	1 1/4	4- 7/8	65.00	75.00		25 3/8	29 3/8	43	38	10	6	1 3/8	4- 1	78.00	90.00		25 3/4	29 3/4	43	38	10	6	1 3/8	4- 1	78.00	90.00
	32 1/2	34 3/4	38	33 1/2	10	7	1 1/4	4- 7/8	72.50	82.50		31 3/8	35 3/8	48	43	11	7	1 3/8	4- 1	85.50	97.50		31 3/4	35 3/4	48	43	11	7	1 3/8	4- 1	85.50	97.50
	38 1/2	40 3/4	38	33 1/2	10	7	1 1/4	4- 7/8	80.00	90.00		37 3/8	41 3/8	48	43	11	7	1 3/8	4- 1	93.00	105.00		37 3/4	41 3/4	48	43	11	7	1 3/8	4- 1	93.00	105.00
3 15/16	19 1/8	22 3/8	36	31	10	6	1 3/8	4- 1	67.00	79.00	3 15/16	19 3/8	23 3/8	43	38	10	6	1 3/8	4- 1	73.00	85.00	4 7/16 and 4 11/16	20 3/8	24 3/8	44	39	11	7	1 3/8	4- 1 1/8	80.00	95.00
	25 1/8	28 3/8	36	31	10	6	1 3/8	4- 1	72.00	84.00		25 3/8	29 3/8	43	38	10	6	1 3/8	4- 1	78.00	90.00		26 3/8	30 3/8	44	39	11	7	1 3/8	4- 1 1/8	90.00	105.00
	31 1/8	34 3/8	40	35	11	7	1 3/8	4- 1	79.50	91.50		31 3/8	35 3/8	48	43	11	7	1 3/8	4- 1	85.50	97.50		32 3/8	36 3/8	50	45	12	8	1 3/8	4- 1 1/8	100.00	115.00
	37 1/8	40 3/8	40	35	11	7	1 3/8	4- 1	87.00	99.00		37 3/8	41 3/8	48	43	11	7	1 3/8	4- 1	93.00	105.00		38 3/8	42 3/8	50	45	12	8	1 3/8	4- 1 1/8	110.00	125.00
4 7/16	19 1/2	22 1/4	38	33	11	7	1 1/2	4- 1 1/8	72.00	87.00	4 7/16 and 4 11/16	20 3/8	24 3/8	44	39	11	7	1 1/2	4- 1 1/8	80.00	95.00	5 7/16 and 5 11/16	26 3/8	30 3/8	44	39	11	7	1 1/2	4- 1 1/8	90.00	105.00
	25 1/2	28 1/4	38	33	11	7	1 1/2	4- 1 1/8	82.00	97.00		26 3/4	30 3/4	44	39	11	7	1 1/2	4- 1 1/8	90.00	105.00		32 3/8	36 3/8	50	45	12	8	1 1/2	4- 1 1/8	100.00	115.00
	31 1/2	34 1/4	42	37	12	8	1 1/2	4- 1 1/8	92.00	107.00		32 3/4	36 3/4	50	45	12	8	1 1/2	4- 1 1/8	100.00	115.00		38 3/4	42 3/4	50	45	12	8	1 1/2	4- 1 1/8	110.00	125.00
	37 1/2	40 1/4	42	37	12	8	1 1/2	4- 1 1/8	102.00	117.00		44 3/8	48 3/8	54	49	14	9	1 1/2	4- 1 1/8	150.00	170.00		44 1/4	48 1/4	54	49	14	9	1 1/2	4- 1 1/8	150.00	170.00
4 15/16	20	22 3/4	38	33	11	7	1 1/2	4- 1 1/8	72.00	87.00	4 15/16	26 3/16	31 1/16	50	44	13	8	1 3/4	4- 1 1/4	125.00	145.00	5 7/16 and 5 11/16	26 1/4	31 1/4	56	50	15	10	1 3/4	4- 1 1/4	175.00	200.00
	26	28 3/4	38	33	11	7	1 1/2	4- 1 1/8	82.00	97.00		32 3/16	37 1/16	54	48	14	9	1 3/4	4- 1 1/4	137.50	157.50		32 1/4	37 1/4	60	54	16	11	2	4- 1 1/4	190.00	215.00
	32	34 3/4	42	37	12	8	1 1/2	4- 1 1/8	92.00	107.00		38 3/16	43 1/16	54	48	14	9	1 3/4	4- 1 1/4	150.00	170.00		38 1/4	43 1/4	60	54	16	11	2	4- 1 1/4	205.00	230.00
	38	40 3/4	42	37	12	8	1 1/2	4- 1 1/8	102.00	117.00		44 1/8	49 1/8	54	48	14	9	1 3/4	4- 1 1/4	150.00	170.00		44 3/8	49 3/8	60	54	16	11	2	4- 1 1/4	205.00	230.00
5 7/16	18 3/8	21 3/4	40	34	13	8	1 3/4	4- 1 1/4	105.00	125.00	5 7/16 and 5 11/16	19 1/16	22 1/16	40	34	13	8	1 3/4	4- 1 1/4	105.00	125.00	6 7/16 and 6 11/16	26 3/8	30 3/8	44	39	11	7	1 3/8	4- 1 1/8	90.00	105.00
	24 3/8	27 3/4	40	34	13	8	1 3/4	4- 1 1/4	115.00	135.00		25 1/16	28 1/16	40	34	13	8	1 3/4	4- 1 1/4	115.00	135.00		26 3/4	30 3/4	44	39	11	7	1 3/8	4- 1 1/8	90.00	105.00
	30 3/8	33 3/4	44	38	14	9	1 3/4	4- 1 1/4	127.50	147.50		31 1/16	34 1/16	44	38	14	9	1 3/4	4- 1 1/4	127.50	147.50		32 3/8	36 3/8	50	45	12	8	1 3/8	4- 1 1/8	100.00	115.00
	36 3/8	39 3/4	44	38	14	9	1 3/4	4- 1 1/4	140.00	160.00		37 1/16	40 1/16	44	38	14	9	1 3/4	4- 1 1/4	140.00	160.00		38 1/4	42 3/4	50	45	12	8	1 3/8	4- 1 1/8	110.00	125.00
5 15/16	19 1/8	22 1/8	40	34	13	8	1 3/4	4- 1 1/4	105.00	125.00	5 15/16	19 3/8	23 3/8	43	38	10	6	1 3/8	4- 1	73.00	85.00	6 7/16 and 6 11/16	26 3/8	30 3/8	44	39	11	7	1 3/8	4- 1 1/8	90.00	105.00
	25 1/8	28 1/8	40	34	13	8	1 3/4	4- 1 1/4	115.00	135.00		25 3/8	29 3/8	43	38	10	6	1 3/8	4- 1	78.00	90.00		26 3/4	30 3/4	44	39	11	7	1 3/8	4- 1 1/8	90.00	105.00
	31 1/8	34 1/8	44	38	14	9	1 3/4	4- 1 1/4	127.50	147.50		31 3/8	35 3/8	48	43	11	7	1 3/8	4- 1	85.50	97.50		32 3/8	36 3/8	50	45	12	8	1 3/8	4- 1 1/8	100.00	115.00
	37 1/8	40 1/8	44	38	14	9	1 3/4	4- 1 1/4	140.00	160.00		37 3/8	41 3/8	48	43	11	7	1 3/8	4- 1	93.00	105.00		38 3/8	42 3/8	50	45	12	8	1 3/8	4- 1 1/8	110.00	125.00
6 7/16	18	21 1/2	42	36	15	10	1 7/8	4- 1 1/8	150.00	175.00	6 7/16 and 6 11/16	18 3/8	21 3/8	42	36	15	10	1 7/8	4- 1 1/8	165.00	195.00	7 7/16 and 7 11/16	18 1/8	21 1/8	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00
	24	27 1/2	42	36	15	10	1 7/8	4- 1 1/8	160.00	185.00		24 3/8	27 3/8	42	36	15	10	1 7/8	4- 1 1/8	160.00	185.00		24 3/4	27 3/4	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00
	30	33 1/2	46	40	16	11	2	4- 1 1/8	175.00	200.00		30 3/8	33 3/8	46	40	16	11	2	4- 1 1/8	175.00	200.00		30 3/4	33 3/4	50	44	16	11	2	4- 1 1/8	190.00	220.00
	36	39 1/2	46	40	16	11	2	4- 1 1/8	190.00	215.00		36 3/8	39 3/8	46	40	16	11	2	4- 1 1/8	190.00	215.00		36 3/4	39 3/4	50	44	16	11	2	4- 1 1/8	210.00	240.00
6 15/16	18 3/4	21 3/4	42	36	15	10	1 7/8	4- 1 1/8	150.00	175.00	6 15/16	18 3/8	21 3/8	42	36	15	10	1 7/8	4- 1 1/8	165.00	195.00	7 7/16 and 7 11/16	18 1/8	21 1/8	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00
	24 3/4	27 3/4	42	36	15	10	1 7/8	4- 1 1/8	160.00	185.00		24 3/8	27 3/8	42	36	15	10	1 7/8	4- 1 1/8	160.00	185.00		24 3/4	27 3/4	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00
	30 3/4	33 3/4	46	40	16	11	2	4- 1 1/8	175.00	200.00		30 3/8	33 3/8	46	40	16	11	2	4- 1 1/8	175.00	200.00		30 3/4	33 3/4	50	44	16	11	2	4- 1 1/8	190.00	220.00
	36 3/4	39 3/4	46	40	16	11	2	4- 1 1/8	190.00	215.00		36 3/8	39 3/8	46	40	16	11	2	4- 1 1/8	190.00	215.00		36 3/4	39 3/4	50	44	16	11	2	4- 1 1/8	210.00	240.00
7 7/16	18 3/8	21 3/8	42	36	15	10	1 7/8	4- 1 1/8	165.00	195.00	7 7/16 and 7 11/16	18 1/8	21 1/8	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00	8 7/16 and 8 11/16	18 3/8	21 3/8	42	36	15	10	1 7/8	4- 1 1/8	190.00	220.00
	24 3/8	27 3/8	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00		24 3/8	27 3/8	42	36	15	10	1 7/8	4- 1 1/8	175.00	205.00		24 3/4	27 3/4	42	36	15	10	1 7/8	4- 1 1/8	190.00	220.00
	30 3/8	33 3/8	50	44	16	11	2	4- 1 1/8	210.00	240.00		30 3/8	33 3/8	50	44	16	11	2	4- 1 1/8	210.00	240.00		30 3/4	33 3/4	50	44	16	11	2	4- 1 1/8	210.00	240.00
	36 3/8	39 3/8	50	44	16	11	2																									

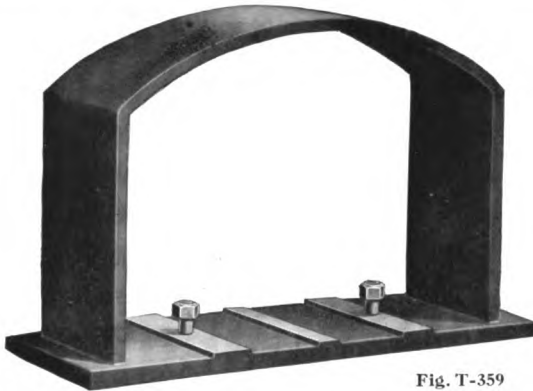
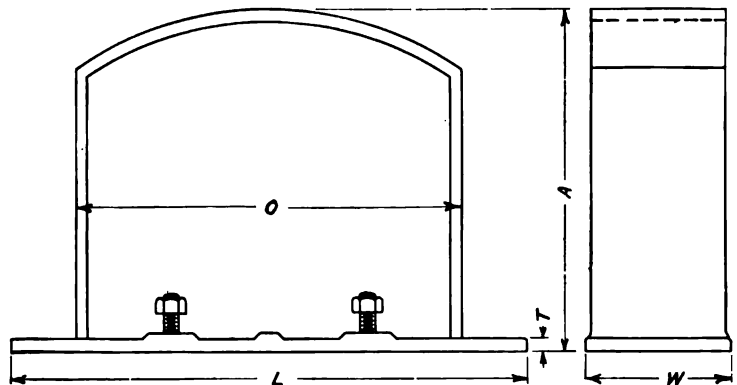


Fig. T-359

Cast-Iron Wall Frames

These frames are designed particularly for use with adjustable pillow blocks, (Fig. T-328) but may be used with ball and socket, and rigid types if no vertical adjustment is required.

Holding down bolts are tapped into base to suit pillow block to be used.



Price List

Shaft Sizes, Inches	List Prices	Dimensions in Inches									
		Height from Base to Shaft Center when Used with Pillow Block					L	W	T	A	O
		Fig. T-328	Fig. T-350 and T-351	Fig. T-348 and T-349	Fig. T-342	Fig. T-347					
1 $\frac{3}{16}$	\$ 8.90	4 $\frac{1}{2}$			3 $\frac{1}{2}$		16 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{3}{4}$
1 $\frac{7}{16}$ —1 $\frac{11}{16}$	14.00	5 $\frac{7}{8}$			4 $\frac{3}{16}$		21	5 $\frac{1}{2}$	5 $\frac{5}{8}$	14	15 $\frac{5}{8}$
1 $\frac{15}{16}$ —2 $\frac{3}{16}$	16.00	6 $\frac{3}{16}$			4 $\frac{3}{4}$		23	6 $\frac{1}{2}$	5 $\frac{5}{8}$	15 $\frac{1}{4}$	17 $\frac{1}{8}$
2 $\frac{7}{16}$ —2 $\frac{11}{16}$	20.00	7 $\frac{1}{2}$			5 $\frac{3}{8}$		25 $\frac{3}{4}$	7 $\frac{1}{2}$	11 $\frac{1}{16}$	17 $\frac{3}{4}$	20 $\frac{1}{8}$
2 $\frac{15}{16}$ —3 $\frac{3}{16}$	25.50	7 $\frac{7}{8}$			6 $\frac{1}{4}$		28 $\frac{3}{4}$	8 $\frac{1}{2}$	3 $\frac{3}{4}$	19	21 $\frac{3}{4}$
3 $\frac{7}{16}$ —3 $\frac{11}{16}$	31.00	9 $\frac{1}{16}$			7 $\frac{1}{16}$		30 $\frac{7}{8}$	9 $\frac{1}{2}$	13 $\frac{1}{16}$	22 $\frac{1}{2}$	25 $\frac{3}{8}$
3 $\frac{15}{16}$	38.20	9 $\frac{5}{8}$			7 $\frac{7}{8}$		35 $\frac{1}{2}$	10 $\frac{1}{2}$	7 $\frac{7}{8}$	25 $\frac{3}{8}$	28 $\frac{1}{8}$
1 $\frac{7}{16}$	8.90		2 $\frac{1}{8}$	2 $\frac{5}{8}$			16 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{3}{4}$
1 $\frac{11}{16}$	8.90		2 $\frac{1}{4}$	2 $\frac{11}{16}$			16 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{3}{4}$
1 $\frac{15}{16}$	8.90		2 $\frac{5}{16}$	2 $\frac{7}{8}$			16 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{3}{4}$
2 $\frac{3}{16}$	8.90		2 $\frac{1}{2}$	3			16 $\frac{1}{2}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{3}{4}$
2 $\frac{7}{16}$	14.00		2 $\frac{7}{8}$	3 $\frac{1}{2}$		3 $\frac{7}{8}$	21	5 $\frac{1}{2}$	5 $\frac{5}{8}$	14	15 $\frac{5}{8}$
2 $\frac{11}{16}$	14.00		3	3 $\frac{5}{8}$		3 $\frac{7}{8}$	21	5 $\frac{1}{2}$	5 $\frac{5}{8}$	14	15 $\frac{5}{8}$
2 $\frac{15}{16}$	16.00		3 $\frac{1}{4}$	3 $\frac{13}{16}$		23	23	6 $\frac{1}{2}$	5 $\frac{5}{8}$	15 $\frac{1}{4}$	17 $\frac{1}{8}$
3 $\frac{3}{16}$	16.00		3 $\frac{1}{2}$	4		23	23	6 $\frac{1}{2}$	5 $\frac{5}{8}$	15 $\frac{1}{4}$	17 $\frac{1}{8}$
3 $\frac{7}{16}$	20.00		3 $\frac{7}{8}$	4 $\frac{1}{4}$		25 $\frac{3}{4}$	25 $\frac{3}{4}$	7 $\frac{1}{2}$	11 $\frac{1}{16}$	17 $\frac{3}{4}$	20 $\frac{1}{8}$
3 $\frac{11}{16}$	20.00		4	4 $\frac{3}{8}$		25 $\frac{3}{4}$	25 $\frac{3}{4}$	7 $\frac{1}{2}$	11 $\frac{1}{16}$	17 $\frac{3}{4}$	20 $\frac{1}{8}$
3 $\frac{15}{16}$	25.50		4 $\frac{1}{4}$	4 $\frac{7}{8}$		28 $\frac{3}{4}$	28 $\frac{3}{4}$	8 $\frac{1}{2}$	3 $\frac{3}{4}$	19	21 $\frac{3}{4}$
4 $\frac{7}{16}$	31.00		4 $\frac{11}{16}$	5 $\frac{1}{16}$		6 $\frac{7}{16}$	30 $\frac{7}{8}$	9 $\frac{1}{2}$	13 $\frac{1}{16}$	22 $\frac{1}{2}$	25 $\frac{3}{8}$
4 $\frac{15}{16}$	31.00		5 $\frac{3}{16}$	5 $\frac{13}{16}$		6 $\frac{7}{16}$	30 $\frac{7}{8}$	9 $\frac{1}{2}$	13 $\frac{1}{16}$	22 $\frac{1}{2}$	25 $\frac{3}{8}$
5 $\frac{7}{16}$	31.00		5 $\frac{9}{16}$			7 $\frac{13}{16}$	30 $\frac{7}{8}$	9 $\frac{1}{2}$	13 $\frac{1}{16}$	22 $\frac{1}{2}$	25 $\frac{3}{8}$
5 $\frac{15}{16}$	31.00		6 $\frac{1}{16}$			7 $\frac{13}{16}$	30 $\frac{7}{8}$	9 $\frac{1}{2}$	13 $\frac{1}{16}$	22 $\frac{1}{2}$	25 $\frac{3}{8}$
6 $\frac{7}{16}$	38.20		6 $\frac{1}{2}$			9	35 $\frac{1}{2}$	10 $\frac{1}{2}$	7 $\frac{7}{8}$	25 $\frac{3}{8}$	28 $\frac{1}{8}$
6 $\frac{15}{16}$	38.20		6 $\frac{7}{8}$			9	35 $\frac{1}{2}$	10 $\frac{1}{2}$	7 $\frac{7}{8}$	25 $\frac{3}{8}$	28 $\frac{1}{8}$

Steel Arch Wall Frames, Plain and Wedge Adjusting

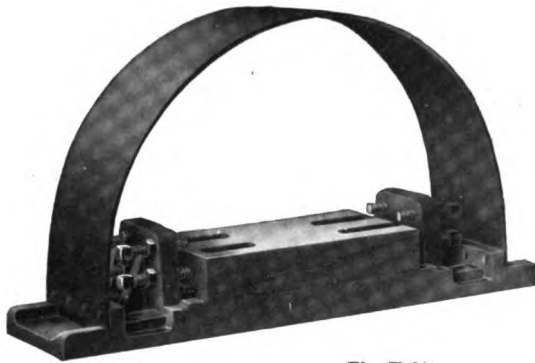
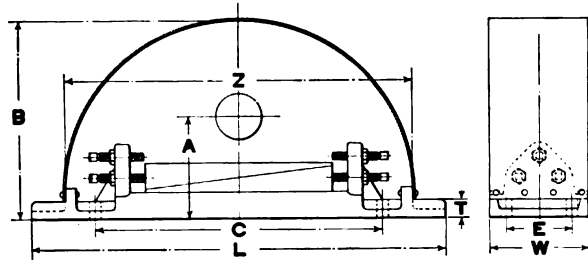


Fig. T-360



Steel arch wall frames are designed to carry various types of pillow blocks. The top of the base plate and both sides of wedges are accurately machined. The bases extend beyond the arches so that the frames can be securely anchored in the walls.

Price List

Shaft Sizes, Inches	A		Dimensions in Inches			List Prices	
	Plain	Wedge Ad-justing	L	Z	B	Plain	Wedge Ad-justing
FOR USE WITH EXTRA HEAVY RIGID RING OILING PILLOW BLOCKS (FIG. T-347)							
2 1/16	4 7/8	6 13/16	28	23 1/2	13	\$13.35	\$18.35
2 1/8	4 7/8	6 13/16	28	23 1/2	13	13.35	18.35
2 1/4	5 5/8	7 3/4	29 1/2	25	14 3/8	16.00	22.00
3 1/16	5 5/8	7 3/4	29 1/2	25	14 3/8	16.00	22.00
3 1/8	6 3/4	8 1/2	31	26	15	21.20	29.20
3 1/4	6 3/4	8 1/2	31	26	15	21.20	29.20
3 3/8	7 5/8	9 1/2	32 3/4	27 3/4	16 3/4	27.00	37.20
4 1/16	7 5/8	10 3/8	35	30	19 1/2	35.50	48.80
4 1/8	7 5/8	10 3/8	35	30	19 1/2	35.50	48.80
5 1/16	9 1/4	12 7/16	41 1/2	36 1/4	23	51.30	70.50
5 1/8	9 1/4	12 7/16	41 1/2	36 1/4	23	51.30	70.50
6 1/16	10 5/8	14 1/8	45	39 1/2	26	69.65	93.65
6 1/8	10 5/8	14 1/8	45	39 1/2	26	69.65	93.65
7 1/16	11 3/8	15 1/8	48	42 1/2	29	88.70	116.70
7 1/8	11 3/8	15 1/8	48	42 1/2	29	88.70	116.70
FOR USE WITH RIGID RING OILING QUILL BEARINGS (FIG. T-345)							
*5 11/16	8 3/8	11 3/16	42	36 1/4	23	\$21.00	\$29.50
*6 3/16 to 6 11/16	9 5/8	13 1/8	45	39 1/2	26	32.50	44.50
*7 7/16 " 8 3/16	10 1/4	14	48	42 1/2	29	44.00	60.50
*8 11/16 " 9 3/16	11 5/8	15 11/16	52	46	30	62.00	84.00
*10 3/16 " 10 11/16	13 1/4	17 3/4	58	52	33	83.40	110.90
*11 11/16 " 12 3/16	14 3/8	19 3/4	64	58	36	107.00	140.00
FOR USE WITH STANDARD RIGID PILLOW BLOCKS (FIG. T-350 AND T-351)							
1 15/16	3 3/8	5	26	21 1/2	12	\$ 9.20	\$12.70
2 1/16	3 3/8	5	26	21 1/2	12	9.20	12.70
2 1/8	3 7/8	5 13/16	28	23 1/2	13	13.35	18.35
2 1/4	4	5 13/16	28	23 1/2	13	13.35	18.35
2 3/8	4 3/4	6 1/2	29 1/2	25	14 3/8	16.00	22.00
3 1/16	4 3/4	6 3/4	29 1/2	25	14 3/8	16.00	22.00
3 1/8	5	7 1/4	31	26	15	21.20	29.20
3 1/4	5 1/8	7 3/4	31	26	15	21.20	29.20
3 3/8	5 5/8	8 1/2	32 3/4	27 3/4	16 3/4	27.00	37.20
4 1/16	5 5/8	9 1/8	35	30	19 1/2	35.50	48.80
4 1/8	6 3/8	9 1/8	35	30	19 1/2	35.50	48.80
5 1/16	7	10 3/16	41 1/2	36 1/4	23	51.30	70.50
5 1/8	7 1/8	10 11/16	41 1/2	36 1/4	23	51.30	70.50
6 1/16	8 1/8	11 5/8	45	39 1/2	26	69.65	93.65
6 1/8	8 1/4	11 5/8	45	39 1/2	26	69.65	93.65
7 1/16	9 1/4	13	48	42 1/2	29	88.70	116.70
7 1/8	9 3/4	13 1/2	48	42 1/2	29	88.70	116.70
FOR USE WITH RIGID RING OILING BALL AND SOCKET PILLOW BLOCKS (FIG. T-348 AND T-349)							
1 15/16	3 3/8	5 9/16	26	21 1/2	12	\$ 9.20	\$12.70
2 1/16	4	5 11/16	26	21 1/2	12	9.20	12.70
2 1/8	4 1/2	6 1/16	28	23 1/2	13	13.35	18.35
2 1/4	4 5/8	6 9/16	28	23 1/2	13	13.35	18.35
2 3/8	4 3/4	7 1/16	29 1/2	25	14 3/8	16.00	22.00
3 1/16	5 1/8	7 1/4	29 1/2	25	14 3/8	16.00	22.00
3 1/8	5 5/8	7 5/8	31	26	15	21.20	29.20
3 1/4	5 5/8	7 3/4	31	26	15	21.20	29.20
3 3/8	6	8 1/16	32 3/4	27 3/4	16 3/4	27.00	37.20
4 1/16	6 3/8	9 5/8	35	30	19 1/2	35.50	48.80
4 1/8	7	9 3/4	35	30	19 1/2	35.50	48.80
FOR USE WITH UNIVERSAL GIANT RING OILING RIGID PILLOW BLOCKS (FIG. T-328)							
1 7/16 to 1 11/16	4 5/8	6 5/8	25	21 1/2	18	\$ 7.75	\$10.65
1 15/16 " 2 3/16	5 1/8	7 3/8	27 1/2	22 3/4	19	9.75	13.40
2 1/16 " 2 11/16	5 7/8	8 1/2	31 1/4	26 3/4	22 1/4	14.00	19.25
2 15/16 " 3 3/16	6 7/8	9 5/8	33 1/4	28 3/4	23 3/4	16.80	23.10
3 1/16 " 3 11/16	7 3/4	10 7/8	37 1/4	32 1/4	26	22.40	30.80
3 15/16 " 4 1/16	8 3/4	12 1/4	41 1/2	36 1/4	29 1/2	28.55	39.25
4 1/16 to 4 11/16	10 1/8	13 7/8	45 3/4	40 3/8	35	37.35	51.35
4 15/16 " 5 1/16	12 1/4	16 3/4	53 3/4	48	40 1/2	54.15	74.45
5 1/16 " 5 11/16	14 1/8	19 1/8	59 3/8	53 7/8	44	73.35	98.35
5 15/16 " 6 1/16	16	21 1/2	65	59 1/2	48	93.35	123.35
FOR USE WITH UNIVERSAL GIANT RING OILING RIGID PILLOW BLOCKS (FIG. T-328)							
1 7/16 to 1 11/16	6	8	25	21 1/2	18	\$ 7.75	\$10.65
1 15/16 " 2 3/16	6 9/16	8 13/16	27 1/4	22 3/4	19	9.75	13.40
2 1/16 " 2 11/16	8	10 5/8	31 1/4	26 3/4	22 1/4	14.00	19.25
2 15/16 " 3 3/16	8 1/2	11 1/8	33 1/4	28 3/4	23 3/4	16.80	23.10
3 1/16 " 3 11/16	9 1/2	12 3/4	37 1/4	32 1/4	26	22.40	30.80
3 15/16 " 4 1/16	10 1/2	14	41 1/2	36 1/4	29 1/2	28.55	39.25
4 1/16 to 4 11/16	12 3/8	16 1/8	45 3/8	40 3/8	35	37.35	51.35

Dimensions not listed are the same as for base plates (Figs. 361 and 362)

*Quill sizes in Inches. See page 38, Dimension A.

Base Plates, Plain and Wedge Adjusting



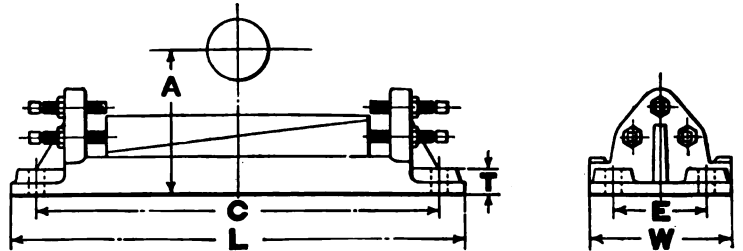
Fig. T-361



Fig. T-362

These base plates are designed to carry different types of pillow blocks.

The top of base plate and both sides of wedges are accurately machined.



Price List

Shaft Size, Inches	Dimensions in Inches						Number and Size of Bolts	List Prices		
	A		L	W	T	C		E	Plain	Wedge Adjusting
	Plain	Wedge Adjusting								
FOR USE WITH EXTRA HEAVY RING OILING RIGID PILLOW BLOCKS (FIG. T-347)										
2 7/16	4 7/8	6 1/8	2 1/4	5 1/2	1 3/4	19 1/2	2-3/4	\$10.00	\$15.00	
2 11/16	4 7/8	6 1/8	2 1/4	5 1/2	1 3/4	19 1/2	2-3/4	10.00	15.00	
2 15/16	5 5/8	7 3/4	2 3/4	6 1/2	1 3/4	20 1/2	4	12.00	18.00	
3 1/8	5 5/8	7 3/4	2 3/4	6 1/2	1 3/4	20 1/2	4	12.00	18.00	
3 1/2	6 1/4	8 1/2	2 3/4	7 1/2	1 3/4	21 1/2	5	15.90	23.90	
3 15/16	6 1/4	8 1/2	2 3/4	7 1/2	1 3/4	21 1/2	5	15.90	23.90	
3 11/16	7	9 1/2	2 5/8	8 1/2	1 1/2	23 3/4	6	20.30	30.50	
4 1/8	7 7/8	10 3/8	2 5/8	9 1/4	1 5/8	25	6	26.60	39.90	
4 1/2	7 7/8	10 3/8	2 5/8	9 1/4	1 5/8	25	6	26.60	39.90	
5 1/8	9 1/4	12 1/8	3 3/4	9 3/4	1 3/4	30 3/4	6 1/2	38.50	57.80	
5 1/2	9 1/4	12 1/8	3 3/4	9 3/4	1 3/4	30 3/4	6 1/2	38.50	57.80	
6 1/8	10 5/8	14 1/8	3 7/8	10 3/4	1 7/8	33 1/2	7 1/4	52.25	76.25	
6 1/2	10 5/8	14 1/8	3 7/8	10 3/4	1 7/8	33 1/2	7 1/4	52.25	76.25	
7 1/8	11 3/4	15 1/2	4 0	12 1/4	2	36	8 1/4	66.50	94.50	
7 1/2	11 3/4	15 1/2	4 0	12 1/4	2	36	8 1/4	66.50	94.50	
FOR USE WITH RIGID QUILL BEARINGS (FIG. T-345)										
*5 11/16	8 3/4	11 3/8	3 4	6	1 3/4	30 3/4	3 3/4	4-3/8	\$16.00	\$24.50
*6 1/16 to 6 11/16	9 5/8	13 1/4	3 7	8	1 3/4	33 1/2	5 1/2	4-7/8	26.00	38.00
*7 1/16 to 8 3/16	10 1/4	14 0	4 0	9	1 3/4	36	6	4-1	34.00	50.50
*8 1/16 to 9 1/16	11 1/8	15 1/8	4 3/8	9 1/2	1 7/8	39 1/2	6 1/2	4-1 1/4	48.50	70.50
*10 1/16 to 11 1/16	12 1/4	16 3/4	4 9	10 1/2	2	44	7 1/4	4-1 1/2	65.00	92.50
*11 1/16 to 12 1/16	13 1/8	17 3/4	5 5	12	2 1/4	49	8 1/4	4-1 3/4	83.00	116.00
FOR USE WITH STANDARD RIGID PILLOW BLOCKS (FIG. T-350 AND T-351)										
1 15/16	3 3/8	5 1/8	1 3/8	4 1/2	1 1/8	17 1/2	2-3/4	\$6.90	\$10.40	
2 1/8	3 3/8	5 1/8	1 3/8	4 1/2	1 1/8	17 1/2	2-3/4	6.90	10.40	
2 1/2	3 3/8	5 1/8	1 3/8	4 1/2	1 1/8	17 1/2	2-3/4	10.00	15.00	
2 11/16	4	5 1/2	1 3/4	5 1/2	1 1/4	19 1/2	2-3/4	10.00	15.00	
2 15/16	4 1/4	5 1/2	1 3/4	5 1/2	1 1/4	19 1/2	2-3/4	12.00	18.00	
3 1/8	4 3/4	6 1/2	2 1/4	6 1/2	1 3/4	20 1/2	4	12.00	18.00	
3 1/2	4 3/4	6 1/2	2 1/4	6 1/2	1 3/4	20 1/2	4	12.00	18.00	
3 15/16	5 1/8	7 1/4	2 3/4	7 1/2	1 3/4	21 1/2	5	15.90	23.90	
3 11/16	5 1/8	7 1/4	2 3/4	7 1/2	1 3/4	21 1/2	5	15.90	23.90	
4 1/8	5 7/8	8 5/8	2 5/8	8 1/2	1 5/8	23 3/4	6	20.30	30.50	
4 1/2	5 7/8	8 5/8	2 5/8	8 1/2	1 5/8	23 3/4	6	20.30	30.50	
5 1/8	7 1/4	10 1/8	3 3/4	9 3/4	1 3/4	30 3/4	6 1/2	26.60	39.90	
5 1/2	7 1/4	10 1/8	3 3/4	9 3/4	1 3/4	30 3/4	6 1/2	26.60	39.90	
6 1/8	8 1/4	11 5/8	3 7/8	10 3/4	1 7/8	33 1/2	7 1/4	38.50	57.80	
6 1/2	8 1/4	11 5/8	3 7/8	10 3/4	1 7/8	33 1/2	7 1/4	38.50	57.80	
7 1/8	9 1/4	12 1/8	4 0	12 1/4	2	36	8 1/4	52.25	76.25	
7 1/2	9 1/4	12 1/8	4 0	12 1/4	2	36	8 1/4	52.25	76.25	
8 1/8	10 5/8	14 1/8	4 3/8	13 1/4	2 1/4	41	9 1/4	66.50	94.50	
8 1/2	10 5/8	14 1/8	4 3/8	13 1/4	2 1/4	41	9 1/4	66.50	94.50	
9 1/4	12 1/4	16 1/4	5 1/4	15 1/4	2 3/4	47 1/2	10 1/2	83.00	116.00	
9 1/2	12 1/4	16 1/4	5 1/4	15 1/4	2 3/4	47 1/2	10 1/2	83.00	116.00	
FOR USE WITH UNIVERSAL GIANT RING OILING BALL AND SOCKET PILLOW BLOCKS (FIG. T-328)										
1 7/16 to 1 11/16	6	8	1 9/16	4	1 1/8	17 1/2	2-3/4	\$5.80	\$8.70	
1 15/16 to 2 1/8	6 9/16	8 13/16	2 1/4	5 1/2	1 3/4	19 1/2	4	7.30	10.95	
2 1/2 to 2 11/16	7	9	2 1/4	5 1/2	1 3/4	19 1/2	4	10.50	15.75	
2 15/16 to 3 1/8	8 1/16	10 1/16	2 3/4	6	1 3/4	20 1/2	5	12.60	18.90	
3 1/2 to 3 11/16	9 1/16	11 1/16	3 0	7	1 3/4	21 1/2	6	16.80	25.20	
3 15/16 to 4 1/8	10 1/16	12 1/16	3 1/4	8	1 3/4	21 1/2	6	21.40	32.10	
4 1/2 to 4 11/16	11 1/16	13 1/16	3 3/4	9	1 3/4	21 1/2	6	28.00	42.00	
5 1/8 to 5 11/16	12 1/16	14 1/16	4 0	10	1 3/4	21 1/2	6	40.60	60.90	
5 1/2 to 6 1/8	13 1/16	15 1/16	4 1/4	11	1 3/4	21 1/2	6	55.00	80.00	
6 1/2 to 6 11/16	14 1/16	16 1/16	4 3/4	12	1 3/4	21 1/2	6	70.00	100.00	
7 1/8 to 7 11/16	15 1/16	17 1/16	5 0	13	1 3/4	21 1/2	6	88.00	128.00	
7 1/2 to 8 1/8	16 1/16	18 1/16	5 1/4	14	1 3/4	21 1/2	6	110.00	160.00	

*Quill sizes in Inches. See page 38, Dimension A.

Shaft Size, Inches	Dimensions in Inches						Number and Size of Bolts	List Prices		
	A		L	W	T	C		E	Plain	Wedge Adjusting
	Plain	Wedge Adjusting								
FOR USE WITH RING OILING RIGID PILLOW BLOCKS (FIG. T-348 AND T-349)										
1 15/16	3 7/8	5 9/16	1 9/16	4 1/2	1 1/8	17 1/2	2-3/4	\$6.90	\$10.40	
2 1/8	4 1/8	5 11/16	1 9/16	4 1/2	1 1/8	17 1/2	2-3/4	6.90	10.40	
2 1/2	4 1/8	5 11/16	1 9/16	4 1/2	1 1/8	17 1/2	2-3/4	10.00	15.00	
2 11/16	4 1/8	5 11/16	1 9/16	4 1/2	1 1/8	17 1/2	2-3/4	10.00	15.00	
2 15/16	4 1/8	5 11/16	1 9/16	4 1/2	1 1/8	17 1/2	2-3/4	10.00	15.00	
3 1/8	4 3/4	6 1/8	2 1/4	5 1/2	1 3/4	19 1/2	4	12.00	18.00	
3 1/2	4 3/4	6 1/8	2 1/4	5 1/2	1 3/4	19 1/2	4	12.00	18.00	
3 15/16	5 1/8	7 1/4	2 3/4	6 1/2	1 3/4	20 1/2	5	15.90	23.90	
3 11/16	5 1/8	7 1/4	2 3/4	6 1/2	1 3/4	20 1/2	5	15.90	23.90	
4 1/8	5 7/8	8 5/8	2 5/8	7 1/2	1 3/4	21 1/2	6	20.30	30.50	
4 1/2	5 7/8	8 5/8	2 5/8	7 1/2	1 3/4	21 1/2	6	20.30	30.50	
5 1/8	6 1/4	7 3/4	2 3/4	7 1/2	1 3/4	21 1/2	6	26.60	39.90	
5 1/2	6 1/4	7 3/4	2 3/4	7 1/2	1 3/4	21 1/2	6	26.60	39.90	
6 1/8	7 1/4	8 1/4	3 1/4	8 1/2	1 3/4	23 3/4	6 1/2	38.50	57.80	
6 1/2	7 1/4	8 1/4	3 1/4	8 1/2	1 3/4	23 3/4	6 1/2	38.50	57.80	
7 1/8	8 1/4	9 1/4	3 3/4	9 1/4	1 5/8	25	6	44.10	66.50	
7 1/2	8 1/4	9 1/4	3 3/4	9 1/4	1 5/8	25	6	44.10	66.50	
8 1/8	9 1/4	10 3/8	4 0	10 3/4	1 7/8	27 1/2	7 1/4	52.25	76.25	
8 1/2	9 1/4	10 3/8	4 0	10 3/4	1 7/8	27 1/2	7 1/4	52.25	76.25	
9 1/4	10 5/8	12 1/8	4 3/8	12 1/4	2 1/4	31 1/2	8 1/4	66.50	94.50	
9 1/2	10 5/8	12 1/8	4 3/8	12 1/4	2 1/4	31 1/2	8 1/4	66.50	94.50	
FOR USE WITH RING OILING BALL AND SOCKET PILLOW BLOCKS (FIG. T-342)										
1 7/16 to 1 11/16	4 3/8	6 3/8	1 9/16	4	1 1/8	17 1/2	2-3/4	\$5.80	\$8.70	
1 15/16 to 2 1/8	5 1/8	7 3/8	2 1/4	5 1/2	1 3/4	19 1/2	4	7.30	10.95	
2 1/2 to 2 11/16	5 7/8	8 1/2	2 1/4	5 1/2	1 3/4	19 1/2	4	10.50	15.75	
2 15/16 to 3 1/8	6 7/8	9 5/8	2 3/4	6	1 3/4	20 1/2	5	12.60	18.90	
3 1/2 to 3 11/16	7 3/8	10 7/8	3 0	7	1 3/4	21 1/2	6	16.80	25.20	
3 15/16 to 4 1/8	8 3/8	11 7/8	3 1/4	8	1 3/4	21 1/2	6	21.40	32.10	
4 1/2 to 4 11/16	9 3/8	12 7/8	3 3/4	9	1 3/4	21 1/2	6	28.00	42.00	
5 1/8 to 5 11/16	10 3/8	13 7/8	4 0	10	1 3/4	21 1/2	6	40.60	60.90	
5 1/2 to 6 1/8	11 3/8	14 7/8	4 1/4	11	1 3/4	21 1/2	6	55.00	80.00	
6 1/2 to 6 11/16	12 3/8	15 7/8	4 3/4	12	1 3/4	21 1/2	6	70.00	100.00	
7 1/8 to 7 11/16	13 3/8	16 7/8	5 0	13	1 3/4	21 1/2	6	88.00	128.00	
7 1/2 to 8 1/8	14 3/8	17 7/8	5 1/4	14	1 3/4	21 1/2	6	110.00	160.00	

NOTE—These base plates have either 2 or 4 bolt holes in base as required by pillow blocks to be fitted.

In smaller sizes, the wedge adjustable base plates have 2 screws for lateral adjustment; in the larger sizes, 4 screws.

NOTE:—These base plates have either 2 or 4 bolt holes in base as required by pillow blocks to be fitted.
In smaller sizes, the wedge adjustable base plates have 2 screws for lateral adjustment; in the larger sizes, 4 screws.

*Quill sizes in Inches. See page 38, Dimension A.

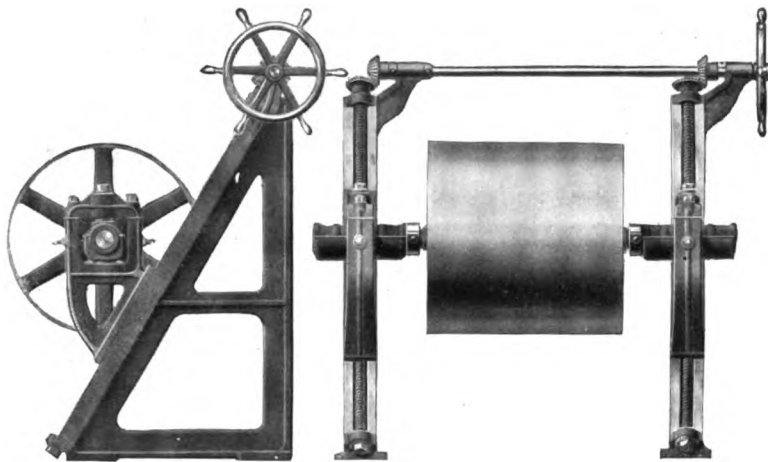
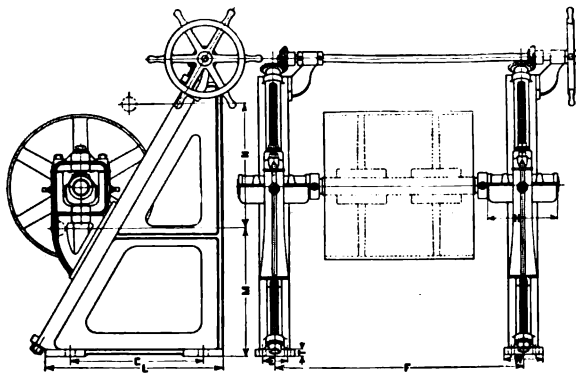


Fig. T-363



Upright Belt Tighteners

Style A

These tighteners are designed for severe service and are particularly suitable for use with main engine drives.

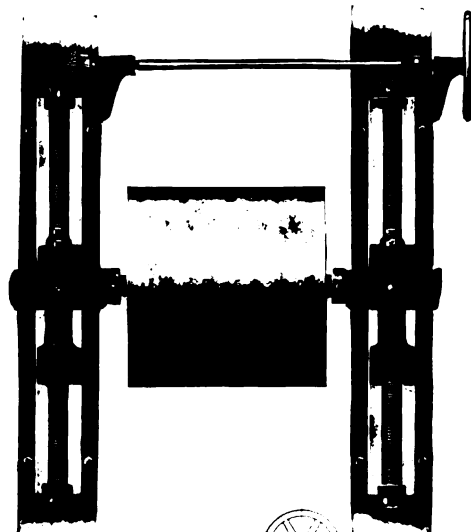
The bearings are of the ring oiling ball and socket type.

When conditions require that tightener be operated from below, the hand wheel and adjusting mechanism can be placed at base of frame.

Style B tighteners are the same as style A except that the bearings which carry the shaft and pulley are fitted to the vertical side of frame.

Price List

Width of Belt, Inches	Size of Pulley, Inches	List Prices	Dimensions in Inches									Bolts Required
			L	W	T	F	H	M	N	C	E	
10	20x12	\$250.00	28	7	1 1/4	29	12 1/8	19	24	21	4	8 - 7/8
11	20x13	255.00	28	7	1 1/4	30	12 1/8	19	24	21	4	8 - 7/8
12	22x14	260.00	28	7	1 1/4	31	12 1/8	19	24	21	4	8 - 7/8
13	22x15	265.00	28	7	1 1/4	32	12 1/8	19	24	21	4	8 - 7/8
14	22x16	270.00	28	7	1 1/4	33	12 1/8	19	24	21	4	8 - 7/8
15	22x17	275.00	28	7	1 1/4	34	12 1/8	19	24	21	4	8 - 7/8
16	24x18	285.00	28	7	1 1/4	35	12 1/8	19	24	21	4	8 - 7/8
17	24x19	292.50	28	7	1 1/4	36	12 1/8	19	24	21	4	8 - 7/8
18	24x20	300.00	28	7	1 1/4	37	12 1/8	19	24	21	4	8 - 7/8
20	26x22	375.00	35	8	1 1/2	42	14 1/4	23	29	27 1/2	4 3/4	8-1
21	26x23	382.50	35	8	1 1/2	43	14 1/4	23	29	27 1/2	4 3/4	8-1
22	26x24	390.00	35	8	1 1/2	44	14 1/4	23	29	27 1/2	4 3/4	8-1
23	26x25	397.50	35	8	1 1/2	45	14 1/4	23	29	27 1/2	4 3/4	8-1
24	26x26	405.00	35	8	1 1/2	46	14 1/4	23	29	27 1/2	4 3/4	8-1
25	26x27	412.50	35	8	1 1/2	47	14 1/4	23	29	27 1/2	4 3/4	8-1
26	28x28	425.00	35	8	1 1/2	48	14 1/4	23	29	27 1/2	4 3/4	8-1
27	28x29	435.00	35	8	1 1/2	49	14 1/4	23	29	27 1/2	4 3/4	8-1
28	30x30	450.00	35	8	1 1/2	50	14 1/4	23	29	27 1/2	4 3/4	8-1
30	32x32	500.00	43	10	1 3/4	54	16 1/4	27	33	34	6 1/2	8-1 1/4
32	32x34	572.50	43	10	1 3/4	56	16 1/4	27	33	34	6 1/2	8-1 1/4
34	32x36	585.00	43	10	1 3/4	58	16 1/4	27	33	34	6 1/2	8-1 1/4
36	32x38	597.50	43	10	1 3/4	60	16 1/4	27	33	34	6 1/2	8-1 1/4
38	36x40	620.00	43	10	1 3/4	62	16 1/4	27	33	34	6 1/2	8-1 1/4
40	36x42	650.00	43	10	1 3/4	64	16 1/4	27	33	34	6 1/2	8-1 1/4
42	36x44	665.00	43	10	1 3/4	66	16 1/4	27	33	34	6 1/2	8-1 1/4
44	40x46	695.00	43	10	1 3/4	68	16 1/4	27	33	34	6 1/2	8-1 1/4
46	40x48	710.00	43	10	1 3/4	70	16 1/4	27	33	34	6 1/2	8-1 1/4
48	40x50	725.00	43	10	1 3/4	72	16 1/4	27	33	34	6 1/2	8-1 1/4
50	44x52	900.00	56	12	2	77	18 1/4	32	43	44 1/2	8	8-1 1/2
52	44x54	920.00	56	12	2	79	18 1/4	32	43	44 1/2	8	8-1 1/2
54	44x56	940.00	56	12	2	81	18 1/4	32	43	44 1/2	8	8-1 1/2
56	44x58	960.00	56	12	2	83	18 1/4	32	43	44 1/2	8	8-1 1/2
58	48x60	1000.00	56	12	2	85	18 1/4	32	43	44 1/2	8	8-1 1/2
60	48x62	1025.00	56	12	2	87	18 1/4	32	43	44 1/2	8	8-1 1/2
62	48x64	1075.00	56	12	2	91	20 1/4	32	43	44 1/2	8	8-1 1/2
64	48x66	1100.00	56	12	2	93	20 1/4	32	43	44 1/2	8	8-1 1/2
66	52x68	1150.00	56	12	2	95	20 1/4	32	43	44 1/2	8	8-1 1/2
68	52x70	1180.00	56	12	2	97	20 1/4	32	43	44 1/2	8	8-1 1/2
70	52x72	1215.00	56	12	2	99	20 1/4	32	43	44 1/2	8	8-1 1/2
72	52x74	1250.00	56	12	2	101	20 1/4	32	43	44 1/2	8	8-1 1/2



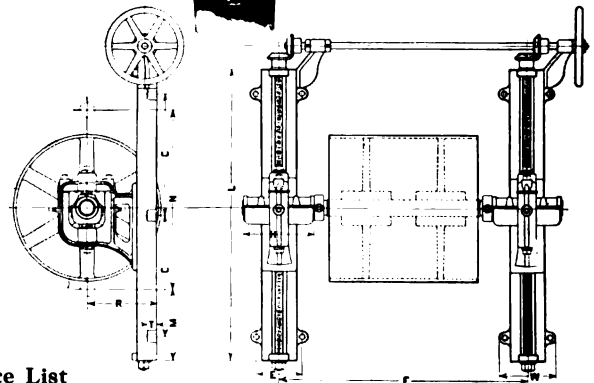
Vertical Belt Tighteners Style C

Fig. T-364

These tighteners are designed for severe service and suitable for use in heavy drives when it is desired that the frames be supported against vertical columns or posts.

The bearings are of the ring oiling ball and socket type.

When conditions require that the tightener be operated from below the hand wheel and adjusting mechanism may be placed at lower ends of side frames.



Price List

Width of Belt Inches	Size of Pulley, Inches	List Prices	Dimensions in Inches										Foundation Bolts Required
			L	W	T	F	H	M	N	R	C	E	
10	20x12	\$225.00	48	10	1 3/4	29	12 1/8	12	24	12	19 1/2	8	12-3/4
11	20x13	230.00	48	10	1 3/4	30	12 1/8	12	24	12	19 1/2	8	12-3/4
12	22x14	235.00	48	10	1 3/4	31	12 1/8	12	24	12	19 1/2	8	12-3/4
13	22x15	240.00	48	10	1 3/4	32	12 1/8	12	24	12	19 1/2	8	12-3/4
14	22x16	245.00	48	10	1 3/4	33	12 1/8	12	24	12	19 1/2	8	12-3/4
15	22x17	250.00	48	10	1 3/4	34	12 1/8	12	24	12	19 1/2	8	12-3/4
16	24x18	260.00	48	10	1 3/4	35	12 1/8	12	24	12	19 1/2	8	12-3/4
17	24x19	267.50	48	10	1 3/4	36	12 1/8	12	24	12	19 1/2	8	12-3/4
18	24x20	275.00	48	10	1 3/4	37	12 1/8	12	24	12	19 1/2	8	12-3/4
20	26x22	337.50	60	11 1/2	2	42	14 1/4	13	34	14	25	9 1/4	12-3/4
21	26x23	345.00	60	11 1/2	2	43	14 1/4	13	34	14	25	9 1/4	12-3/4
22	26x24	352.50	60	11 1/2	2	44	14 1/4	13	34	14	25	9 1/4	12-3/4
23	26x25	360.00	60	11 1/2	2	45	14 1/4	13	34	14	25	9 1/4	12-3/4
24	26x26	367.50	60	11 1/2	2	46	14 1/4	13	34	14	25	9 1/4	12-3/4
25	26x27	375.00	60	11 1/2	2	47	14 1/4	13	34	14	25	9 1/4	12-3/4
26	28x28	387.50	60	11 1/2	2	48	14 1/4	13	34	14	25	9 1/4	12-3/4
27	28x29	397.50	60	11 1/2	2	49	14 1/4	13	34	14	25	9 1/4	12-3/4
28	30x30	412.50	60	11 1/2	2	50	14 1/4	13	34	14	25	9 1/4	12-3/4
30	32x32	500.00	72	13	2 1/4	54	16 1/4	15	42	15	30	10 1/2	12-1
32	32x34	512.50	72	13	2 1/4	56	16 1/4	15	42	15	30	10 1/2	12-1
34	32x36	525.00	72	13	2 1/4	58	16 1/4	15	42	15	30	10 1/2	12-1
36	32x38	537.50	72	13	2 1/4	60	16 1/4	15	42	15	30	10 1/2	12-1
38	36x40	560.00	72	13	2 1/4	62	16 1/4	15	42	15	30	10 1/2	12-1
40	36x42	590.00	72	13	2 1/4	64	16 1/4	15	42	15	30	10 1/2	12-1
42	36x44	605.00	72	13	2 1/4	66	16 1/4	15	42	15	30	10 1/2	12-1
44	40x46	635.00	72	13	2 1/4	68	16 1/4	15	42	15	30	10 1/2	12-1
46	40x48	650.00	72	13	2 1/4	70	16 1/4	15	42	15	30	10 1/2	12-1
48	40x50	665.00	72	13	2 1/4	72	16 1/4	15	42	15	30	10 1/2	12-1
50	44x52	800.00	96	14 1/2	2 1/2	77	18 1/4	21	54	18	36	11 1/2	12-1 1/4
52	44x54	820.00	96	14 1/2	2 1/2	79	18 1/4	21	54	18	36	11 1/2	12-1 1/4
54	44x56	840.00	96	14 1/2	2 1/2	81	18 1/4	21	54	18	36	11 1/2	12-1 1/4
56	44x58	860.00	96	14 1/2	2 1/2	83	18 1/4	21	54	18	36	11 1/2	12-1 1/4
58	48x60	900.00	96	14 1/2	2 1/2	85	18 1/4	21	54	18	36	11 1/2	12-1 1/4
60	48x62	925.00	96	14 1/2	2 1/2	87	18 1/4	21	54	18	36	11 1/2	12-1 1/4
62	48x64	975.00	96	14 1/2	2 1/2	91	20 1/4	21	54	18	36	11 1/2	12-1 1/4
64	48x66	1000.00	96	14 1/2	2 1/2	93	20 1/4	21	54	18	36	11 1/2	12-1 1/4
66	52x68	1050.00	96	14 1/2	2 1/2	95	20 1/4	21	54	18	36	11 1/2	12-1 1/4
68	52x70	1080.00	96	14 1/2	2 1/2	97	20 1/4	21	54	18	36	11 1/2	12-1 1/4
70	52x72	1115.00	96	14 1/2	2 1/2	99	20 1/4	21	54	18	36	11 1/2	12-1 1/4
72	52x74	1150.00	96	14 1/2	2 1/2	101	20 1/4	21	54	18	36	11 1/2	12-1 1/4

Horizontal Belt Tighteners

Style D

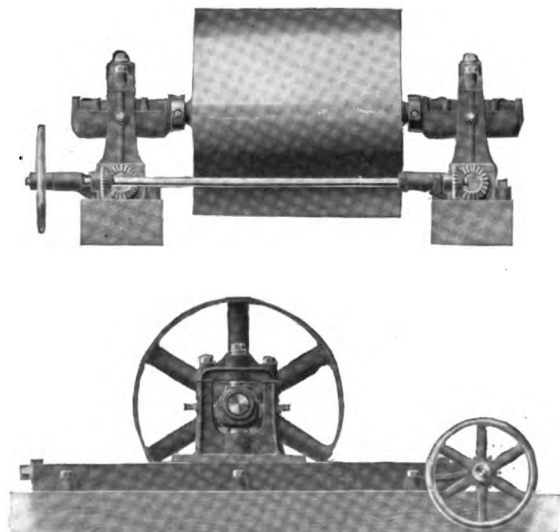
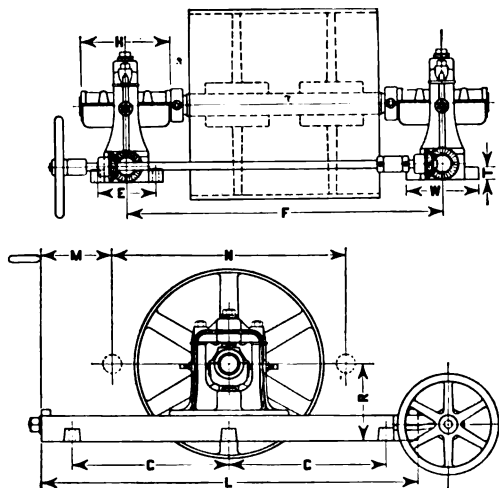


Fig. T-365



Style D belt tighteners are similar to Style C except that ring oiling ball and socket pillow blocks are used to carry the shaft and pulley instead of brackets.

Price List

Width of Belt, Inches	Size of Pulley, Inches	List Prices	Dimensions in Inches										Bolts Required
			L	W	T	F	H	M	N	R	C	E	
10	20x12	\$225.00	48	10	1 3/4	29	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
11	20x13	230.00	48	10	1 3/4	30	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
12	22x14	235.00	48	10	1 3/4	31	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
13	22x15	240.00	48	10	1 3/4	32	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
14	22x16	245.00	48	10	1 3/4	33	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
15	22x17	250.00	48	10	1 3/4	34	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
16	24x18	260.00	48	10	1 3/4	35	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
17	24x19	267.50	48	10	1 3/4	36	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
18	24x20	275.00	48	10	1 3/4	37	12 1/8	12	24	10 1/2	19 1/2	8	12— 3/4
20	26x22	337.50	60	11 1/2	2	42	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
21	26x23	345.00	60	11 1/2	2	43	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
22	26x24	352.50	60	11 1/2	2	44	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
23	26x25	360.00	60	11 1/2	2	45	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
24	26x26	367.50	60	11 1/2	2	46	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
25	26x27	375.00	60	11 1/2	2	47	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
26	28x28	387.50	60	11 1/2	2	48	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
27	28x29	397.50	60	11 1/2	2	49	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
28	30x30	412.50	60	11 1/2	2	50	14 1/4	13	34	12	25	9 1/4	12— 1 1/4
30	32x32	500.00	72	13	2 1/4	54	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
32	32x34	512.50	72	13	2 1/4	56	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
34	32x36	525.00	72	13	2 1/4	58	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
36	32x38	537.50	72	13	2 1/4	60	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
38	36x40	560.00	72	13	2 1/4	62	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
40	36x42	590.00	72	13	2 1/4	64	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
42	36x44	605.00	72	13	2 1/4	66	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
44	40x46	635.00	72	13	2 1/4	68	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
46	40x48	650.00	72	13	2 1/4	70	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
48	40x50	665.00	72	13	2 1/4	72	16 1/4	15	42	13 1/2	30	10 1/2	12— 1 1/4
50	44x52	800.00	96	14 1/2	2 1/2	77	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
52	44x54	820.00	96	14 1/2	2 1/2	79	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
54	44x56	840.00	96	14 1/2	2 1/2	81	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
56	44x58	860.00	96	14 1/2	2 1/2	83	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
58	48x60	900.00	96	14 1/2	2 1/2	85	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
60	48x62	925.00	96	14 1/2	2 1/2	87	18 1/4	21	54	16	36	11 1/2	12— 1 1/4
62	48x64	975.00	96	14 1/2	2 1/2	91	20 1/4	21	54	16	36	11 1/2	12— 1 1/4
64	48x66	1000.00	96	14 1/2	2 1/2	93	20 1/4	21	54	16	36	11 1/2	12— 1 1/4
66	52x68	1050.00	96	14 1/2	2 1/2	95	20 1/4	21	54	16	36	11 1/2	12— 1 1/4
68	52x70	1080.00	96	14 1/2	2 1/2	97	20 1/4	21	54	16	36	11 1/2	12— 1 1/4
70	52x72	1115.00	96	14 1/2	2 1/2	99	20 1/4	21	54	16	36	11 1/2	12— 1 1/4
72	52x74	1150.00	96	14 1/2	2 1/2	101	20 1/4	21	54	16	36	11 1/2	12— 1 1/4

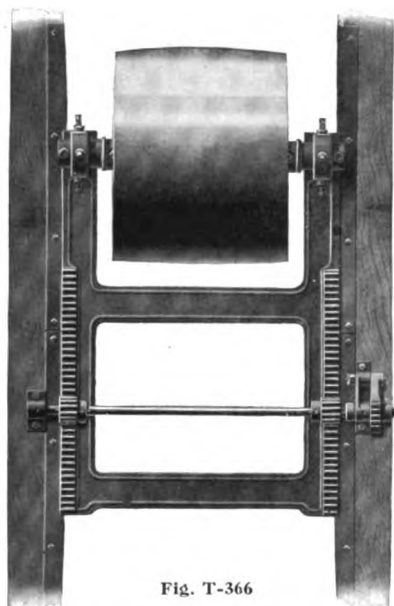


Fig. T-366

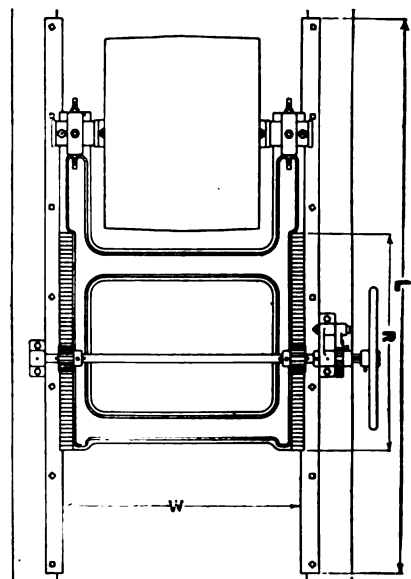
Rack and Pinion Belt Tighteners

Style F

These tighteners are designed for use vertically on wooden posts or horizontally on wooden side frames.

Prices include iron guides but not wooden structure.

Pulleys are of standard, double belt construction with crown faces.



Price List

Width of Belt, Inches	Size of Pulley, Inches	List Prices	Width of Belt, Inches	Size of Pulley, Inches	List Prices
3—4—5	10x 6	\$30.00	14	24x16	\$100.00
6	14x 7	36.00	16	24x18	103.00
7	14x 8	37.00	18	24x20	106.00
8	14x 9	38.00	20	30x22	140.00
9	18x10	52.00	22	30x24	145.00
10	18x12	54.00	24	30x26	150.00
12	18x14	58.00			

Horizontal Iron Frame Belt Tighteners

Style G

Same as above illustration, except tighteners are supported on structural iron side frames and are designed for horizontal use.

Prices include structural iron side frames.

Price List

Width of Belt, Inches	Size of Pulley, Inches	List Prices	Width of Belt, Inches	Size of Pulley, Inches	List Prices
3—4—5	10x 6	\$37.50	14	24x16	\$125.00
6	14x 7	48.50	16	24x18	128.00
7	14x 8	49.50	18	24x20	131.00
8	14x 9	50.50	20	30x22	178.00
9	18x10	68.00	22	30x24	183.00
10	18x12	70.00	24	30x26	188.00
12	18x14	74.00			

Dimensions in Inches

Frame Symbols	Belt Widths, Inches	L	R	W	Frame Symbols	Belt Widths, Inches	L	R	W
0	3—5	31	16	12 $\frac{1}{4}$	4	20—24	74	36	36 $\frac{1}{4}$
1	6—8	39	20	15 $\frac{3}{4}$	5	26—30	86	42	46 $\frac{1}{2}$
2	9—12	49	25	21	6	32—36	99	48	52 $\frac{1}{2}$
3	14—18	60	30	28 $\frac{3}{4}$					

Swinging Belt Tighteners

Style H

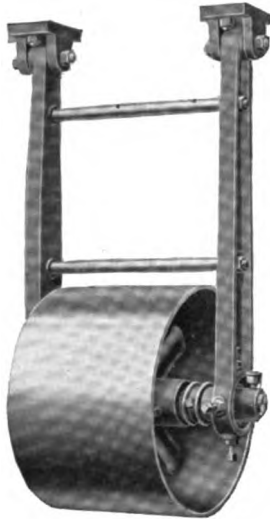
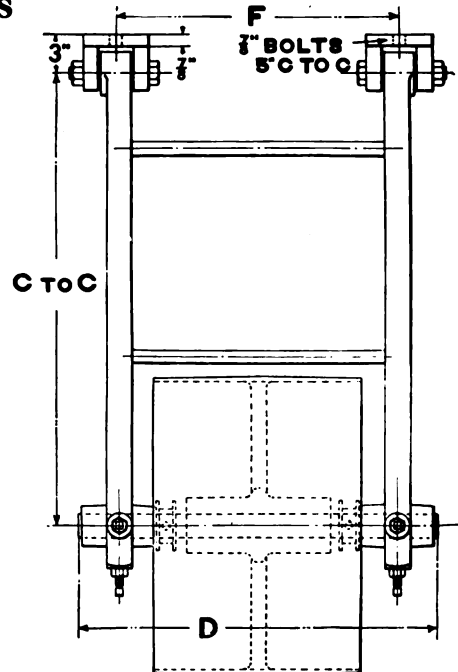


Fig. T-367

An inexpensive type of belt tightener for light service.

The bearings are plain oiling and the pulleys are carefully balanced for high speeds.



Price List

Frame Symbols	Dimensions in Inches				Distance C. to C.			
	Belt	Pulley	F	D	3 Feet	4 Feet	5 Feet	6 Feet
1	4	10x 6	10 $\frac{1}{4}$	16 $\frac{1}{4}$	\$30.00	\$32.00	\$34.00	\$36.00
	5	10x 6	10 $\frac{1}{4}$	16 $\frac{1}{4}$	30.00	32.00	34.00	36.00
	6	14x 7	13	19	33.00	35.00	37.00	39.00
	7	14x 8	13	19	35.00	37.00	39.00	41.00
2	8	14x 9	13 $\frac{1}{2}$	19 $\frac{1}{2}$	38.00	40.00	42.00	44.00
	10	18x11 $\frac{1}{2}$	16 $\frac{3}{4}$	24 $\frac{3}{4}$	50.00	55.00	60.00	65.00
	12	18x13 $\frac{1}{2}$	17 $\frac{3}{4}$	25 $\frac{3}{4}$	53.00	58.00	63.00	68.00
	14	24x16	20 $\frac{1}{2}$	28 $\frac{1}{2}$	65.00	70.00	75.00	80.00
	16	24x18	21 $\frac{1}{2}$	29 $\frac{1}{2}$	70.00	75.00	80.00	85.00
	18	24x20	22 $\frac{1}{2}$	30 $\frac{1}{2}$	75.00	80.00	85.00	90.00

Split Fire Wall Sleeves



Fig. T-368

Sleeves of this type are not only desirable for fire protection to adjoining departments but are required in many instances in order to secure minimum insurance rates.

They are made split and can be placed in an old fire wall as well as built into a new one. The end flanges fit closely to the shaft and will prevent fire passing through wall opening.

Price List

Thickness of Wall, Inches	Range of Shaft Sizes in Inches			Thickness of Wall, Inches	Range of Shaft Sizes in Inches		
	1 to 3	3 $\frac{1}{4}$ to 5 $\frac{3}{4}$	6 to 8		1 to 3	3 $\frac{1}{4}$ to 5 $\frac{3}{4}$	6 to 8
9	\$5.00	\$8.00	\$11.00	19	\$ 9.00	\$13.60	\$19.00
13	6.00	9.40	13.00	21	10.00	15.00	21.00
15	7.00	10.80	15.00	23	11.00	16.40	23.00
17	8.00	12.20	17.00	25	12.00	17.80	25.00

Stationary Mule Stands

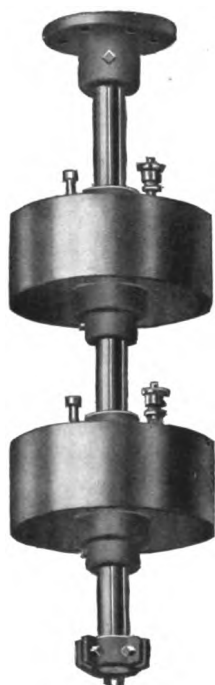
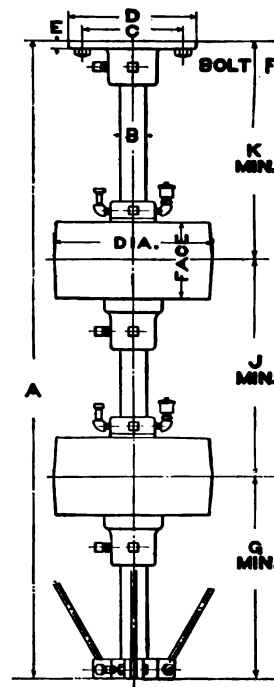


Fig. T-369



Stationary mule stands are used for guiding belts transmitting light powers between shafts that are not parallel but are practically on the same level and operate at about the same speeds. They are adjustable in a vertical direction only.

Prices include guy rods with turnbuckles, also compression grease cups.

Price List

Stand Symbols	Dimensions in Inches													List Prices
	Width of Belt	Pulley		A*	B	C	D	E	F	G	J	K	Guy Rods*	
		Diam-eter	Face											
1	3	12	4¼	3-6	11½ ₁₆	6¼	8	½	4-½	8	11¼	10	½x5-0	\$37.50
2	4	12	5¼	4-0	115 ₁₆	7¾	10	9 ₁₆	4-5 ₈	8½	12¼	11	½x5-9	42.50
2	5	12	6¼	4-0	115 ₁₆	7¾	10	9 ₁₆	4-5 ₈	9	13¼	12	½x5-9	45.00
4	6	15	7¼	4-6	2 7 ₁₆	9¼	12	5 ₈	4-¾	11	15	13	5 ₈ x6-6	52.00
4	7	15	8¼	4-6	2 7 ₁₆	9¼	12	5 ₈	4-¾	11½	16	14	5 ₈ x6-6	55.00
4	8	20	9½	5-0	2 7 ₁₆	9¼	12	5 ₈	4-¾	15	17	14	5 ₈ x7-0	65.00
5	9	20	10½	5-0	215 ₁₆	10	14	5 ₈	4-¾	15½	18½	15	5 ₈ x7-0	88.00
5	10	24	11½	5-6	215 ₁₆	10	14	5 ₈	4-¾	18	19½	16	5 ₈ x7-9	100.00
6	12	30	13½	5-6	3 3 ₁₆	11¾	15	¾	4-7 ₈	22	22	17	¾x7-9	140.00
6	14	30	15½	6-0	3 3 ₁₆	11¾	15	¾	4-7 ₈	23	24	18	¾x8-6	155.00

*Dimensions in feet and inches.

Adjustable Mule Stands

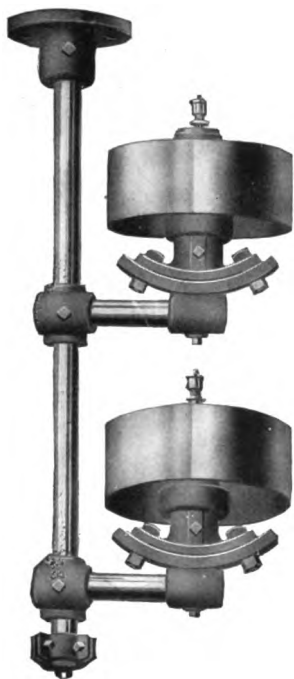
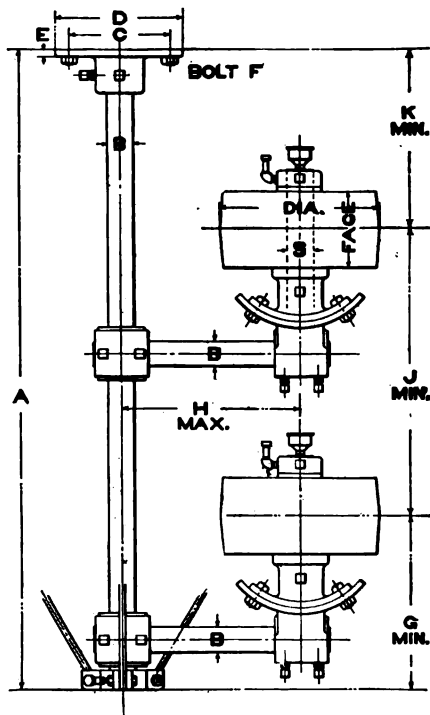


Fig. T-370



Adjustable mule stands are used for guiding belts transmitting light powers between shafts that are not parallel to each other and that operate at different speeds or are not on the same level. The pulleys can be adjusted in any direction.

Prices include guy rods with turnbuckles, also compression grease cups.

Price List

Stand Sym- bols	Dimensions in Inches															List Prices
	Width of Belt	Pulleys		A*	B	C	D	E	F	G	H	J	K	S	Guy Rods*	
		Diam- eter	Face													
1	3	12	4 1/4	3-6	1 11/16	6 1/4	8	1 1/2	4-1 1/2	12	8 1/2	16	7	1 11/16	1 1/2x5-0	\$60.00
2	4	12	5 1/4	4-0	1 15/16	7 3/4	10	9 1/16	4-5 7/8	14	10 5/8	19	8	1 15/16	1 1/2x5-9	67.50
2	5	12	6 1/4	4-6	1 15/16	7 3/4	10	9 1/16	4-5 7/8	14 1/2	10 5/8	20	8	1 15/16	1 1/2x6-6	70.00
4	6	15	7 1/4	5-0	2 7/16	9 1/4	12	5 5/8	4-3 3/4	16 1/2	14 1/4	23	9	2 7/16	5 8x7-0	90.00
4	7	15	8 1/4	5-0	2 7/16	9 1/4	12	5 5/8	4-3 3/4	17	14 1/4	24	10	2 7/16	5 8x7-0	95.00
4	8	20	9 1/2	5-6	2 7/16	9 1/4	12	5 5/8	4-3 3/4	17 1/2	14 1/4	25	10	2 7/16	5 8x7-9	100.00
5	9	20	10 1/2	5-6	2 15/16	10	14	5 5/8	4-3 3/4	21	16	29	11	2 11/16	5 8x7-9	135.00
5	10	24	11 1/2	6-0	2 15/16	10	14	5 5/8	4-3 3/4	21 1/2	16	30	11	2 11/16	5 8x8-6	147.00
6	12	30	13 1/2	6-6	3 3/16	11 3/4	15	3 3/4	4-7 7/8	24	21 1/2	34	12	2 15/16	3 4x9-3	200.00
6	14	30	15 1/2	7-0	3 3/16	11 3/4	15	3 3/4	4-7 7/8	25	21 1/2	36	13	2 15/16	3 4x9-9	215.00

*Dimensions in feet and inches.

Single Brace Binder Frames

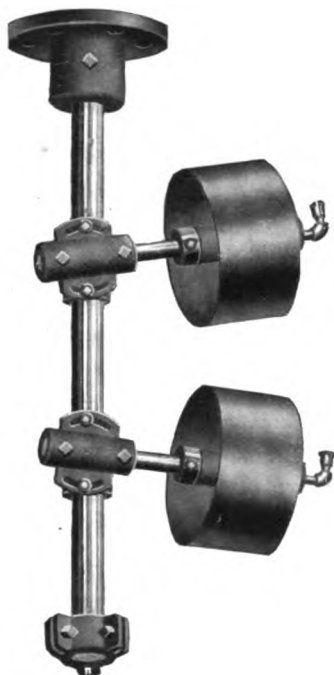
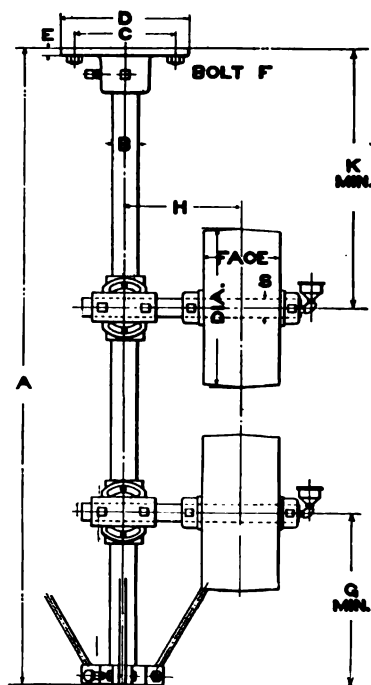


Fig. T-371



These binder frames are made for guiding belts not wider than 6 inches. The pulleys can be adjusted in any direction.

Prices include guy rods with turnbuckles, and compression grease cups.

Price List

Frame Symbols	Dimensions in Inches														List Prices
	Width of Belt	Pulley		A*	B	C	D	E	F	G	H	K	S	Guy Rods*	
		Diam-eter	Face												
2	3	12	4	3-6	1 ¹⁵ ₁₆	7 ³ ₄	10	9 ⁷ ₁₆	4- ⁵ ₈	9	8 ¹ ₄	9	1 ⁷ ₁₆	1 ¹ ₂ x5-3	\$46.00
2	4	12	5	4-0	1 ¹⁵ ₁₆	7 ³ ₄	10	9 ⁷ ₁₆	4- ⁵ ₈	9	7 ³ ₄	9	1 ⁷ ₁₆	1 ¹ ₂ x6-0	50.00
4	5	12	6	4-0	2 ⁷ ₁₆	9 ¹ ₄	12	5 ⁸ ₈	4- ³ ₄	9	9 ¹ ₄	9	1 ¹⁵ ₁₆	5 ⁵ ₈ x6-0	70.00
4	6	15	7	4-6	2 ⁷ ₁₆	9 ¹ ₄	12	5 ⁸ ₈	4- ³ ₄	10 ¹ ₂	8 ³ ₄	10 ¹ ₂	1 ¹⁵ ₁₆	5 ⁵ ₈ x6-9	75.00

*Dimensions in feet and inches.

Double Brace Binder Frames

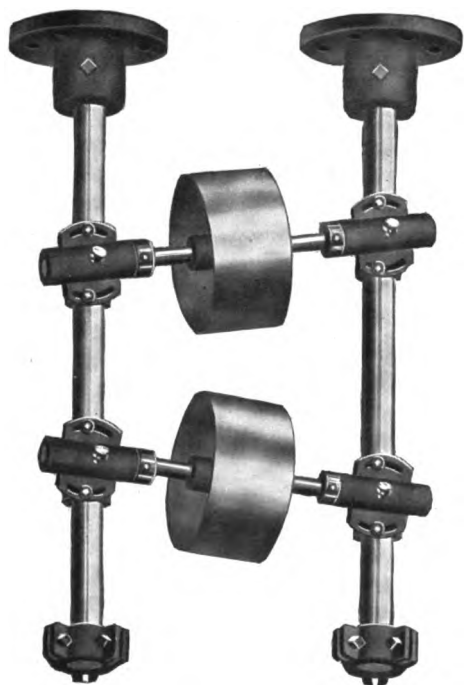
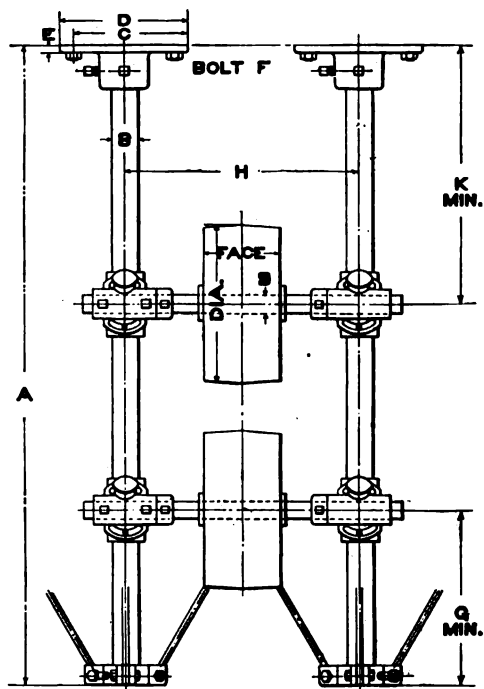


Fig. T-372



These binder frames are adjustable and suitable for guiding belts from 4 to 12 inches in width inclusive.

Prices include guy rods with turnbuckles, also compression grease cups.

Price List

Frame Symbols	Width of Belt	Dimensions in Inches													List Prices
		Pulley		A*	B	C	D	E	F	G	H	K	S	Guy Rods*	
		Diameter	Face												
2	4	12	5	4-0	1 ¹⁵ / ₁₆	7 ³ / ₄	10	9 ⁹ / ₁₆	4- ⁵ / ₈	9	16	9	1 ⁷ / ₁₆	1/2x6-0	\$75.00
2	5	12	6	4-0	1 ¹⁵ / ₁₆	7 ³ / ₄	10	9 ⁹ / ₁₆	4- ⁵ / ₈	9	16	9	1 ⁷ / ₁₆	1/2x6-0	78.00
2	6	15	7	4-6	1 ¹⁵ / ₁₆	7 ³ / ₄	10	9 ⁹ / ₁₆	4- ⁵ / ₈	10 1/2	16	10 1/2	1 ⁷ / ₁₆	1/2x6-9	81.00
2	7	15	8	4-6	1 ¹⁵ / ₁₆	7 ³ / ₄	10	9 ⁹ / ₁₆	4- ⁵ / ₈	10 1/2	16	10 1/2	1 ⁷ / ₁₆	1/2x6-9	85.00
4	8	20	9	5-0	2 ⁷ / ₁₆	9 1/4	12	5 ⁸ / ₈	4- ³ / ₄	13	21	13	1 ¹⁵ / ₁₆	5/8x7-6	125.00
4	10	20	12	5-6	2 ⁷ / ₁₆	9 1/4	12	5 ⁸ / ₈	4- ³ / ₄	13	21	13	1 ¹⁵ / ₁₆	5/8x8-3	130.00
4	12	20	14	5-6	2 ⁷ / ₁₆	9 1/4	12	5 ⁸ / ₈	4- ³ / ₄	13	21	13	1 ¹⁵ / ₁₆	5/8x8-3	135.00

*Dimensions in feet and inches.

Rigid Guide Pulleys

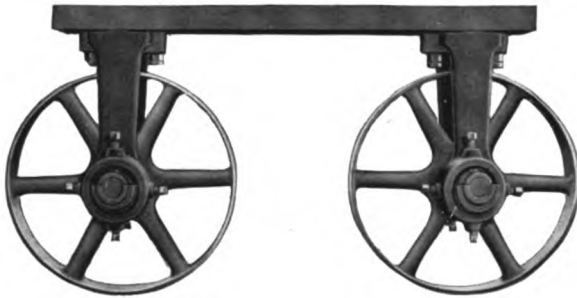


Fig. T-373

Designed for use in textile mills for driving spinning frames. By their use frames can be driven from overhead shaft or up through floor from shaft in lower room.

Prices will be quoted upon application.



Fig. T-374

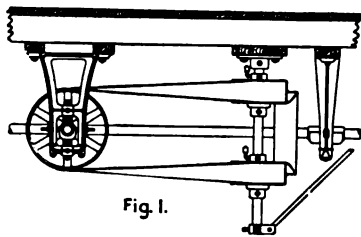


Fig. 1.

Mule Stand and Binder Frame Installations

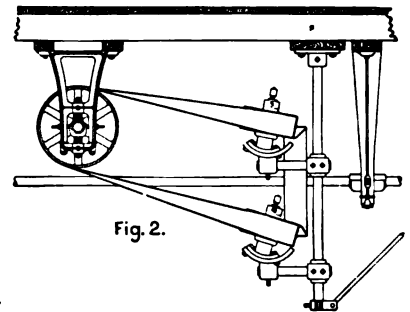


Fig. 2.

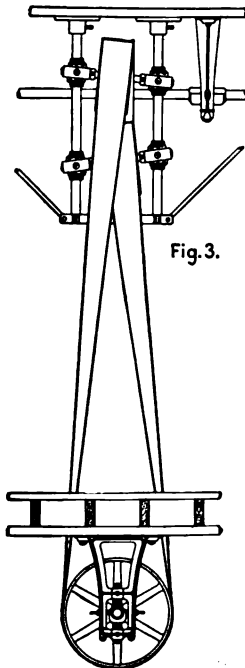


Fig. 3.

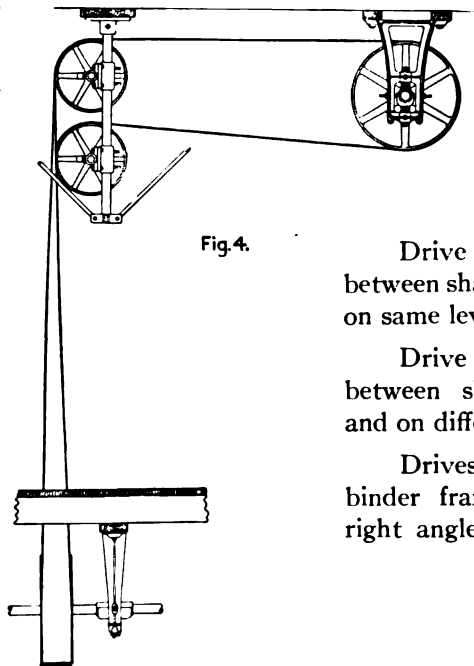


Fig. 4.

Drive No. 1. Stationary mule stand between shafts running at right angles and on same level.

Drive No. 2. Adjustable mule stand between shafts running at right angles and on different levels.

Drives Nos. 3 and 4. Double brace binder frame between shafts running at right angles and on different floors.

Almond Right Angle Transmission

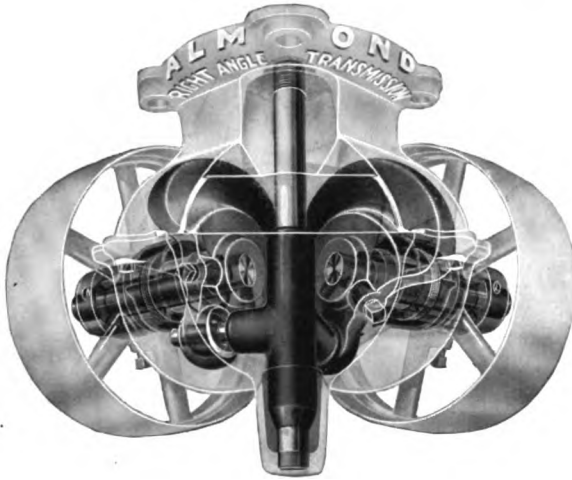


Fig. T-375

An entirely self-contained device, made in three sizes, designed for use where it is desirable to transmit power at right angles. The friction loss, from 7 to 10 per cent, is less than that of the ordinary countershaft. It does not throw oil, runs perfectly quiet and requires no attention except to renew oil monthly. The motion is positive and there is no variation in angular velocity.

The transmission is shipped ready to hang in position and should not be taken apart.

In erecting, the transmission must be suspended as illustrated (Fig. T-375) for the reason that it is built to lubricate properly in this position only.

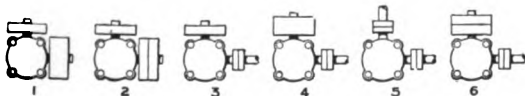
Distance between centers of pulleys should be at least ten feet whenever possible.

Only standard size cast iron pulleys furnished with the transmission should be used and they should be operated as nearly as possible to the maximum speed given in the table which in no case should be exceeded.

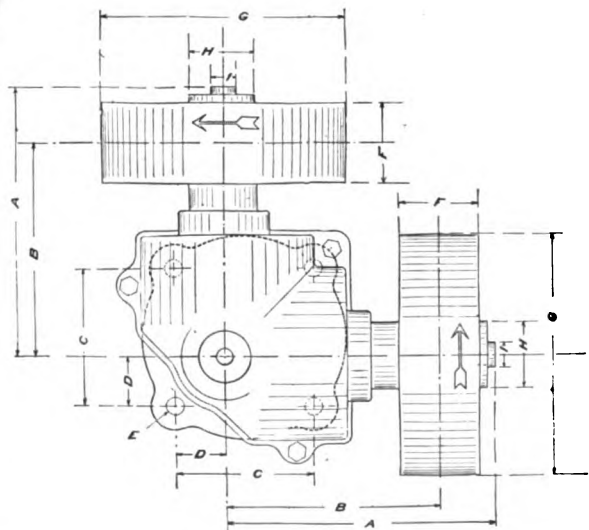
Size of Transmission	Dimensions in Inches											H. P.	Max. Speed R. P. M.	Min. Speed R. P. M.	Weight Lbs.	List Prices
	A	B	C	D	E Diam.	F	G	H	I	Depth of Hole E	Drop to Center of Shaft					
No. 1	13 3/8	10 1/2	6 7/8	2 1/2	7/8	4	12	3 1/8	1 3/16	1	7 1/2	5	500	450	160	\$80.00
No. 2	17	12 1/2	10	3 3/4	1 1/4	6	16	3 3/4	1 1/16	1 1/8	9	10	400	350	320	125.00
No. 3	21	17 1/4	13 1/2	4 3/4	1 1/2	9	20	4 7/16	1 15/16	1 3/8	13	20	350	300	650	250.00



Special prices for special combinations will be furnished on request.



- Plan 1—Wide face pulley one side.
 " 2—Tight and loose pulley one side.
 " 3—Direct connected one side.
 " 4—Direct connected one side; wide face pulley on other side.
 " 5—Direct connected both sides (an application that is not recommended).
 " 6—Direct connected one side, tight and loose pulley on other side.



When transmission is not in operation the oil gauge should be nearly full and when running, the gauge will show little or no oil. Only light, free flowing mineral oil should be used. Grease, graphite, fish or animal oil such as lard, will gum and fill the oil holes.

Universal Giant Friction Clutches

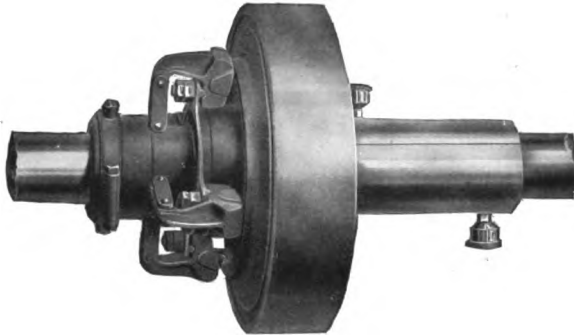


Fig. T-376

Great savings and advantages in the starting and stopping of machinery are attained by the use of friction clutches. Some of these advantages are:

The elimination of tight and loose pulleys with the attendant excessive cost of belting due to wearing of the latter as a result of necessary slipping in taking up load; also rubbing of edges of belt against shifter fingers or forks.

The driven part or parts may be gradually brought to maximum speed with driving part operating at full speed.

The load may be taken up slowly, avoiding excessive shock upon the mechanism of either driving or driven parts or their connecting members.

Driven machines or parts of an equipment may be stopped or started at will of operator, entirely independent of other driven or idle parts.

When not required for use, working stresses upon machinery, belting and shafting may be eliminated.

When working speed is attained by prime mover, each driven part can be gradually brought to its speed, separately or at the same time, thereby relieving the prime mover of all torque in starting except its own.

In starting oil, gas, or gasoline engines, the friction clutch is an ideal device, as by its use the engine is freed from all operating load until properly running at full speed.

For use in starting synchronous motors which must be brought to speed before working load is thrown on.

As a safety device by permitting absolute control of a driven shaft or other connected parts.

It is possible in many instances to do away with the use of countershafts by driving directly from line shafts to machines. This saves considerable frictional loss and reduces the initial cost of installation as well as that of maintenance. With this arrangement, the one belt used remains at rest when it is not required to operate machine.

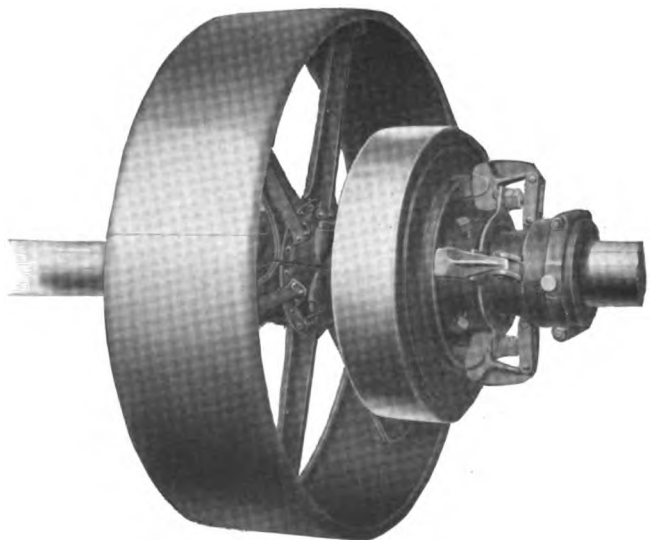


Fig. T-377

Universal Giant Friction Clutches

These clutches are of the disc type and of a consistent design throughout. The same principle of construction is used for all sizes and speeds and for the solid and split types. They are built in a number of sizes with horse power ratings at 100 revolutions per minute ranging from $1\frac{3}{4}$ to 480.

Universal Giant Friction Clutches are of compact form, possess unusual strength and may be easily applied and quickly adjusted. They can be furnished in the solid type, all sizes, and in the split type, Number 7 and larger.

Special Features of Construction

The clutch is complete within itself for use as a cut-off coupling or in connection with any regular or special part that is to be used as a driving or driven mechanism.

Standard pulleys, gears, rope sheaves or sprockets can be used by fitting them to extended sleeve of clutch. This feature eliminates the expense and delay of making these items special.

In standard clutches Number 9 and smaller, the friction discs are made of iron with corks inserted. In sizes Number 10 and larger, discs are made of iron and fitted with hard wood blocks, the two end grain surfaces of which come in contact with the two iron surfaces of friction plates. For special service discs may be made of or lined with any specified material.

The clutch is designed so that the outer rim covers and protects the friction surfaces from dust, dirt or any foreign substances. The toggle mechanism for drawing the friction surfaces together is very powerful and can be adjusted easily to take up any wear that may occur. The draw bolts are evenly spaced and each can be adjusted independently.

When thrown into or out of engagement the friction disc and the follower plate adjust themselves within the clutch, thereby eliminating all end thrust. The floating movement of the disc prevents it from rubbing or dragging against the friction plates when clutch is disengaged, and also permits the mechanism and cover parts of clutch each to be securely fixed in their proper longitudinal position on shaft.

These clutches are adapted for high speed service. The toggle mechanism is so constructed that the action of centrifugal force will not decrease its gripping power. They can therefore be depended upon to transmit rated capacities proportional to speed.

When clutches are required for high speed and high power service the number of discs may be increased to meet the power conditions allowing the use of a comparatively small diameter clutch.



Universal Giant Friction Clutches

Universal Giant friction clutches may be depended upon to take up the load gradually, transmit power without slipping when operating speed is attained and release instantly when thrown out. They positively will not *grab* or *sick*.

In rating clutches we have indicated, in the tabulated lists, capacities which are safe for ordinary transmission service and while an ample margin of safety is allowed, the sizes as rated should not be expected to take care of extraordinary load conditions.

Manufacturers of machinery frequently underspecify the power required to drive their machines because their ratings are based upon running tests, whereas a clutch is called upon for a far greater power in starting and bringing machines up to proper speed.

It is good practice, therefore, regardless of specified power, to use a clutch with rated capacity at least equal to capacity of pulley with which it is connected. See table on page 69.

Any service where the movement of shafting is not continuous and steady is out of the ordinary. In selecting clutches, conditions must be carefully analyzed in order that a clutch of sufficient capacity may be provided.

Special attention is directed to the power required to start heavy masses from a state of rest. For instance, heavy fly wheels, armatures and centrifugal separators. Also pumps, air compressors and machines that are often started while under load, as in saw mills, rolling mills, crushing plants, etc.

It is also advisable to use clutches of increased capacity where conditions require high speeds or frequent engagement and disengagement.

Intermittent power for any service should have a larger clutch than actual rating.

Clutches used in connection with gas engines, air compressors, punching and shearing machinery or any other intermittent load which subjects the clutch to severe shocks, are required to have a capacity considerably in excess of the rated capacity.

With gas engines this is due to the intermittent impulse and we advise clutches for such service to have capacities as follows:

For single cylinder engines double the rated capacity of engine, based on same speed.

For two cylinder engines 50 to 75 per cent greater.

For three cylinder engines 25 to 50 per cent greater.

For engines with four or more cylinders equal rated capacity.

Where clutches are attached directly to the engines the above conditions must be observed. When attached to driven or receiving pulley a slight reduction of capacity is permitted.

Universal Giant Friction Clutches

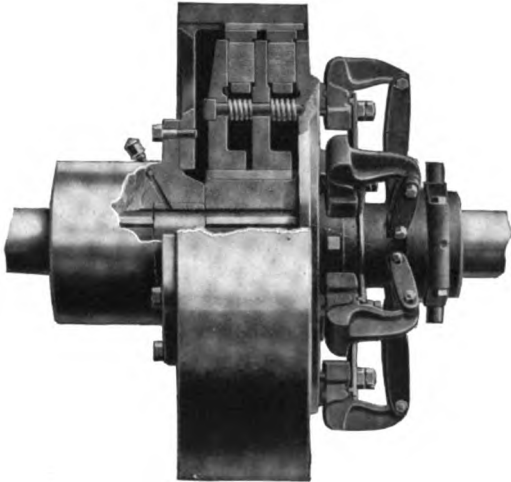


Fig. T-378

Double disc clutches with hubs for use as cut-off couplings or with loose sleeves are made in sizes Number 12 and larger.

List prices, capacity and dimensions are given on pages 76, 77 and 79.

Split clutches with solid hubs for use as cut-off couplings or with split loose sleeves are made in sizes Number 7 and larger in single disc type; Nos. 12 and larger in double disc type.



Fig. T-379



Fig. T-380

Friction clutches to operate in duplex may be supplied in all sizes and are extensively used for two speed or reverse motion service. Pulleys, gears or other necessary parts of standard patterns can be fitted directly to extended sleeves. They are supplied at price of two separate clutches of the same size.

Universal Giant Friction Clutches

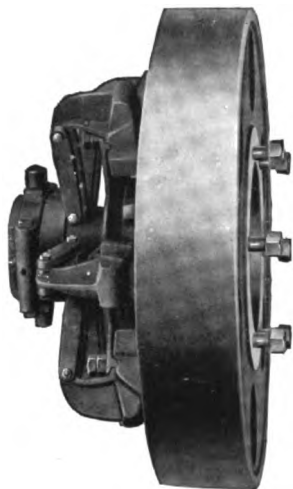


Fig. T-381

Standard plain bore sleeves (Fig. T-382) are counter-bored in center making a reservoir for lubricant, and a continuous spiral oil groove is cut from each end into counter-bore. These sleeves can be furnished with babbitt metal lining.

Fig. T-383 and T-384 illustrate the method of bushing sleeves.

Two bushings are used in each sleeve and are placed so as to be flush at each end, standing apart at center a sufficient distance to make reservoir of ample size.

The phosphor-bronze bushings (Fig. T-383) are equipped with a patent continuous spiral oil groove. In cutting the groove, the machine is set to allow the loop to cut out at inside end of each bushing. These open ends will pull the lubricant into the groove, regardless of the direction in which the sleeve is running.

Patent bronze graphite bushings (Fig. T-384) require a small quantity of oil when started after which they are practically *self-lubricating*.

It is essential that all loose sleeves when bearing surface is adjusting itself to that of shaft and continuously thereafter, receive a proper supply of lubricant between the contact surfaces.



Fig. T-382

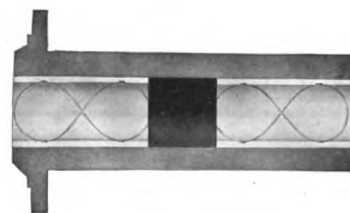


Fig. T-383

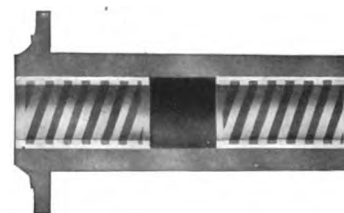


Fig. T-384

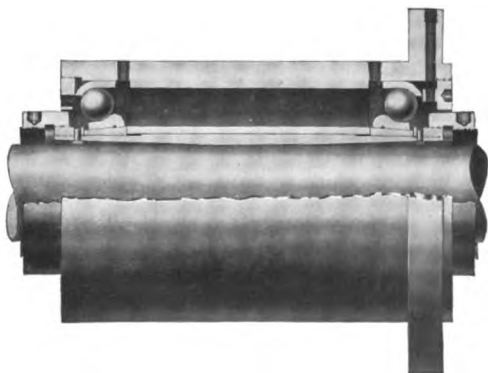


Fig. T-385

Universal Giant friction clutches in sizes No. 8 and larger may be equipped with Chapman Ball Bearing Sleeves, (Fig. T-385). This type of sleeve is more satisfactory than any other. The friction and wear in the ordinary sleeve that runs on the shaft is eliminated. Lubrication is thorough at all times and is not affected by centrifugal force.

Universal Giant Friction Clutches

The shaft upon which a sleeve clutch operates should be capable of safely transmitting not less than full horse power capacity of clutch without excessive deflection.

In erecting friction clutches, care should be taken to see that where the sleeve runs, the shaft is smooth, round and straight.

The bore of sleeve should be thoroughly cleaned and lubricated before it is placed in position. The shaft should also be cleaned and lubricated.

On account of the variation in commercial shafting sizes it is advisable to see that the sleeve is a free running fit on the shaft. When the sleeve is in position, as much lubricant as possible should be forced through cups so that all spaces and passages are filled. This may require filling the cups two or three times. After clutch is placed in service lubrication must be attended to at regular intervals.

These clutches are properly adjusted before leaving shops and when erected are ready for use.

When it is necessary to make adjustments to take up wear, the clutch should be thrown into engagement, and the nuts on draw bolts should then be drawn up successively and repeatedly, a very little at a time until there is a uniform tension on each. They should then be locked by setting up the jam nuts.

Care must be exercised in tightening the bolts as one-fourth of a turn will make a considerable difference in the pressure on the friction disc.

The clutch cannot be adjusted properly when disengaged.

The following table gives the sizes of clutches to be used with pulleys of the sizes listed. The clutches indicated have sufficient capacity to drive the pulley, using double leather belting and working under steady load and normal conditions. If the service is unusually severe, clutches of larger sizes than those listed are recommended.

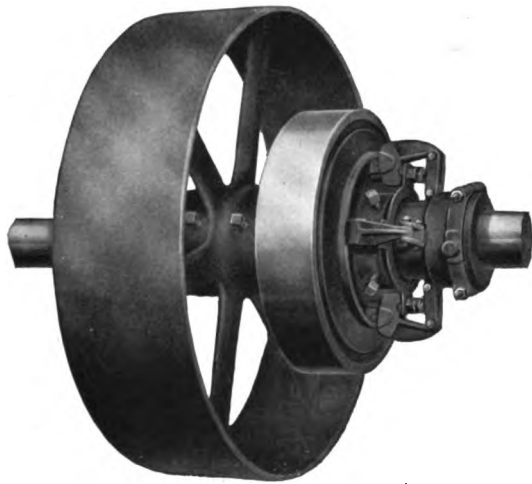


Fig. T-386

Diameter of Pulley, Inches	Nominal Face of Pulley in Inches												
	4	5	6	7	8	10	12	14	16	18	20	22	24
10	6	8	8	8	8	10							
12	6	8	8	8	10	10	12						
14	8	8	8	10	10	12	12						
16	8	8	10	10	10	12	12						
18	8	8	10	10	12	12	12	14		12		14	14
20	8	10	10	12	12	12	14	14	14	12	14	14	14
22	8	10	12	12	12	14	14	14	16	12	14	14	16
24	10	10	12	12	12	14	14	16	12	16	14	14	16
26	10	12	12	12	12	14	14	16	14	16	14	14	16
28	10	12	12	12	14	14	16	12	16	14	18	16	18
30	10	12	12	12	14	14	16	12	16	14	18	16	18
32	10	12	12	14	14	14	16	14	16	14	18	16	18
34	12	12	12	14	14	16	12	16	14	18	16	18	18
36	12	12	12	14	14	16	12	16	14	18	16	18	20
38			14	14	14	12	16	14	18	16	20	18	20
40			14	14	14	12	16	14	18	16	20	18	20
42			14	12	14	12	16	14	18	16	20	18	20
44			14	12	14	12	16	12	18	14	20	18	20
46			14	12	14	12	16	14	18	14	20	18	20
48			14		16		16	14	18	14	20	18	20
50					16	14	18	14	18	16	20	18	20
52					16	18	16	20	18	20	24	20	24
54					16	18	16	20	18	20	24	20	24
56					16	18	16	20	18	20	24	20	24
58					18	18	20	18	20	18	24	20	24
60					18	18	20	18	20	18	24	20	24
62					18	20	20	18	22	20	24	20	24
64					18	20	20	18	22	20	24	20	24
66					18	20	20	18	22	20	24	20	24
68					18	20	22	20	24	20	24	20	24
70					18	20	22	20	24	20	24	20	24
72					18	20	22	20	24	20	24	20	24

Bold face type indicates single disc clutch numbers; light face type, double disc clutch numbers.

Universal Giant Friction Clutches

High Speed Service

The mechanism parts of all Universal Giant friction clutches will operate satisfactorily at speeds not in excess of those listed in the second column of table. Split mechanisms can be supplied to operate satisfactorily at the higher speeds listed in third column; solid mechanisms for speeds listed in third and fourth columns. When furnished for operating at these higher speeds they will be charged at list prices of regular clutches plus the percentages specified.

For clutches having sleeves cast integral with covers, the extra percentage is computed on complete clutch lists. For clutches made with sleeves separate, add percentage to list price of mechanisms only.

Most careful consideration must be given to the selection of proper type sleeves for high speed clutches. When speed of surface in contact with shaft is in the vicinity of 500 feet per minute, ball bearing sleeves (Fig. T-385) are recommended.

Prices of split clutches made to operate at higher speeds than listed in third column and solid clutches for speeds higher than those specified in fourth column, will be quoted upon application.

Clutch Numbers	Maximum Speeds of Friction Clutch Mechanisms in R.P.M.		
	Use Price List of Regular Clutch	Add to List Price 15%	Add to List Price 25%
5	700	1300	1900
6	675	1235	1800
7	650	1175	1700
8	625	1110	1600
9	600	1050	1500
10	575	985	1400
11	550	925	1300
12	525	860	1200
14	500	800	1100
16	475	750	1025
18	450	700	950
20	425	650	875
22	400	600	800
24	375	550	725
28	350	500	650
32	325	450	575
36	300	400	500
42	275	350	425
48	250	300	350

Suggestions for Ordering Friction Clutches

A friction clutch, to operate properly, should meet existing conditions. All conditions must be known and specified with order, so that proper size of clutch may be determined.

1. State if cut-off coupling or clutch with extended sleeve is desired.

If a cut-off coupling, the hub should be attached to driving shaft. This allows the mechanism to stand with driven shaft when disengaged.

2. Give bore or size of shaft. Cut-off couplings may be bored to connect shafts of different diameters.

3. Give speed at which clutch will be operated. This is necessary as power of clutch is conditioned on the speed it will run.

Construction of sleeve and method of lubrication are affected by speed.

4. Advise size and description of article to be attached to sleeve and which clutch will be

required to drive. This information is necessary to determine the power capacity of clutch required. It is not advisable to use clutch of a rated capacity less than pulley, sheave or gear to which it is to be connected.

5. Give full information as to character of service. State if load is steady or intermittent, as clutch rating is based on a steady even load and a larger clutch must be used for intermittent work (page 66).

6. Give maximum amount of power that clutch will be required to transmit.

Where conditions will permit, it is advisable to place a friction clutch on the driven shaft, so that the sleeve will revolve on the standing shaft when clutch is disengaged. If placed on driving shaft, the sleeve will stand idle and the revolving shaft may wear bore of sleeve out of round.

Unless otherwise ordered, solid clutches will be furnished.

Single Disc Solid Universal Giant Friction Clutches

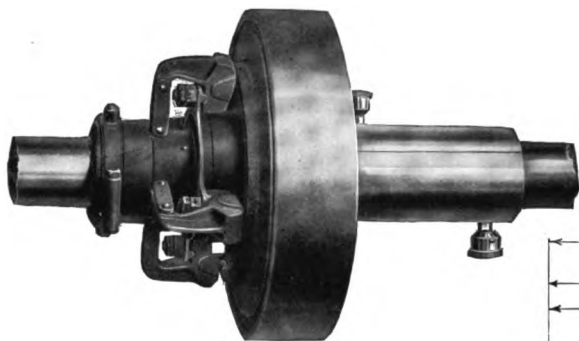
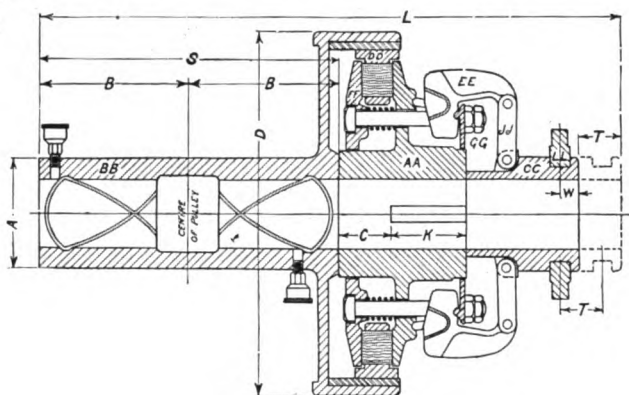


Fig. T-387

If space on shaft is limited and does not permit the use of clutch with standard length sleeve, clutches can be furnished with shorter sleeves. Distance through bore of sleeve should not be less than $1\frac{1}{4}$ times nominal width of pulley face.

Clutches No. 5 to 12 are made with sleeves integral and of standard diameters to receive pulleys, gears, sprockets, etc., with standard bores.



Price List

Clutch Numbers	Shaft Sizes, Inches	Dimensions in Inches											Horse Power at 100 R.P.M.	List Prices of Plain Bore Clutches	List Prices of Bronze Bushed Clutches	List Prices of Bronze Graphite Bushed Clutches	List Prices of Clutches with Babbitted Sleeves
		A			B	C	D	K	L	S	T	W					
		Sleeve with Plain Bore	With Phosphor-Bronze Bushing	With Bronze Graphite Bushing													
5	1 15/16	2 7/16	2 7/16	2 7/16	2 3/4	3/4	6 1/2	2 1/4	12 1/2	5 1/2	1	5/8	1 3/4	\$18.00			
	*1 3/16	2 7/16	2 5/16	2 11/16	2 3/4	3/4	6 1/2	2 1/4	12 1/2	5 1/2	1	5/8	1 3/4	18.00	\$25.80		\$20.50
	*1 7/16	2 7/16	2 11/16	2 11/16	2 3/4	3/4	6 1/2	2 1/4	12 1/2	5 1/2	1	5/8	1 3/4	18.00	26.50		21.00
6	*1 3/16	2 11/16	2 11/16	2 11/16	3 1/4	1	7 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	20.00	28.50	\$30.20	22.70
	*1 7/16	2 11/16	2 11/16	2 11/16	3 1/4	1	7 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	20.00	29.40	31.30	23.15
	*1 11/16	2 11/16	3 3/16	3 3/16	3 1/4	1	7 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	20.00	29.80	32.40	23.30
7	*1 15/16	3 11/16	3 11/16	3 11/16	3 1/4	1	8 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	24.75	35.15	39.05	27.90
	2 3/16	3 11/16	3 11/16	3 11/16	3 1/4	1	8 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	24.75	35.35	41.05	28.10
	2 7/16	3 11/16	3 11/16	3 11/16	3 1/4	1	8 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	24.75	35.65	42.85	28.30
8	*1 7/16	3 11/16	3 11/16	3 11/16	4 1/4	1 1/2	8 3/4	2 1/2	14 1/2	6 1/2	1 1/8	5/8	3	24.75	36.15	46.85	28.60
	*1 11/16	3 11/16	3 11/16	3 11/16	4 1/4	1 1/2	10	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	26.00	36.60	39.50	31.60
	*1 15/16	3 11/16	3 11/16	3 11/16	4 1/4	1 1/2	10	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	26.00	37.00	41.30	31.80
9	*2 3/16	3 11/16	3 11/16	3 11/16	4 1/4	1 1/2	10	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	26.00	37.50	43.40	32.10
	2 7/16	4 3/16	4 3/16	4 3/16	4 1/4	1 1/2	11	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	32.50	44.70	51.70	36.50
	2 11/16	4 3/16	4 3/16	4 3/16	4 1/4	1 1/2	11	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	32.50	45.20	56.00	36.75
10	*1 15/16	4 3/16	4 3/16	4 3/16	4 1/4	1 1/2	11	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	32.50	45.50	57.00	37.00
	*2 3/16	4 3/16	4 11/16	4 11/16	4 1/4	1 1/2	11	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	32.50	46.10	58.70	37.30
	2 11/16	4 3/16	4 11/16	4 11/16	4 1/4	1 1/2	11	2 3/4	17 7/8	8 1/2	1 1/4	3/4	5 1/2	32.50	46.10	58.70	37.30
11	*1 11/16	3 1/2	3 1/2	3 1/2	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	36.00	48.00	51.40	42.00
	*1 15/16	3 1/2	3 1/2	3 1/2	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	36.00	48.50	53.40	42.25
	*2 3/16	3 1/2	3 11/16	3 11/16	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	36.00	49.80	55.20	42.50
12	*2 7/16	3 1/2	3 11/16	3 11/16	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	36.00	50.00	57.00	42.75
	2 11/16	3 11/16	4 3/16	4 3/16	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	39.50	54.10	65.80	43.10
	2 15/16	3 11/16	4 3/16	4 3/16	5 5/8	1 5/8	12 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	39.50	54.50	66.90	43.50
13	*1 3/16	5 3/16	5 3/16	5 3/16	5 5/8	1 5/8	13 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	44.00	59.60	73.40	49.20
	3 7/16	5 3/16	5 3/16	5 3/16	5 5/8	1 5/8	13 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	44.00	60.00	74.70	49.50
	3 11/16	5 3/16	5 3/16	5 3/16	5 5/8	1 5/8	13 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	44.00	60.60	76.70	49.80
14	*3 15/16	5 3/16	5 3/16	5 3/16	5 5/8	1 5/8	13 1/4	3 1/4	21 7/8	11 1/4	1 3/8	7/8	10	44.00	61.40	79.30	50.20
	*2 3/16	3 1/2	3 1/2	3 1/2	6 1/16	1 5/8	14 1/2	3 1/2	23 1/4	12 1/8	1 1/2	1	15	45.00	58.90	64.50	49.60
	*2 7/16	3 1/2	3 11/16	3 11/16	6 1/16	1 5/8	14 1/2	3 1/2	23 1/4	12 1/8	1 1/2	1	15	45.00	60.20	66.30	49.90
15	*2 11/16	3 1/2	4 3/16	4 3/16	6 1/16	1 5/8	14 1/2	3 1/2	23 1/4	12 1/8	1 1/2	1	15	45.00	60.50	68.10	51.20
	*2 15/16	3 1/2	4 3/16	4 3/16	6 1/16	1 5/8	14 1/2	3 1/2	23 1/4	12 1/8	1 1/2	1	15	49.50	65.40	79.20	51.50
	*3 3/16	4 7/16	4 11/16	4 11/16	6 1/4	1 5/8	14 1/2	3 1/2	23 3/8	12 1/2	1 1/2	1	15	49.50	66.20	80.50	51.90
16	3 3/16	4 7/16	4 11/16	4 11/16	6 1/4	1 5/8	14 1/2	3 1/2	23 3/8	12 1/2	1 1/2	1	15	49.50	67.00	82.50	52.30
	3 7/16	4 15/16	5 5/16	5 5/16	6 1/4	1 5/8	14 1/2	3 1/2	23 3/8	12 1/2	1 1/2	1	15	49.50	67.50	84.50	52.80
	3 11/16	4 15/16	5 5/16	5 5/16	6 1/4	1 5/8	14 1/2	3 1/2	23 3/8	12 1/2	1 1/2	1	15	49.50	68.70	85.80	53.30
17	*3 15/16	5 7/16	5 7/16	5 7/16	6 1/4	1 5/8	14 1/2	3 1/2	23 3/8	12 1/2	1 1/2	1	15	49.50	69.10	89.10	53.80

*Carried in stock. Maximum speeds at which standard clutches will operate satisfactorily and extras charged for higher speeds given on page 70. Prices include yoke and fulcrum for lever (Fig. T-393), page 83.

Single Disc Solid Universal Giant Friction Clutches



Fig. T-381

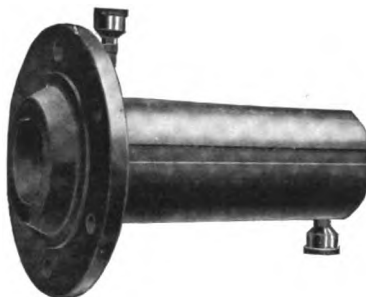


Fig. T-381A

The sleeves of No. 14 and larger solid clutches are made separately in lengths to suit width of face of pulley to be used. When bolted to place they become part of the clutch.

Price List With Plain Bored Sleeves

Clutch Numbers	Range of Bore in Clutch, Inches	Outside Diameter of Sleeve, Inches	Horse Power at 100 R.P.M.	Price of Clutch without Sleeve	Price of Clutch with Sleeve for Pulley—Nominal Face in Inches								
					6 Face	8 Face	10 Face	12 Face	14 Face	16 Face	18 Face	20 Face	24 Face
14	1 ¹⁵ / ₁₆ to 2 ¹ / ₂	3 ¹⁵ / ₁₆	20	\$47.50	\$56.50	\$57.25	\$58.00	\$58.75	\$59.50	\$60.50	\$61.50	\$62.50	
	2 ⁹ / ₁₆ " 3	4 ⁷ / ₁₆	20	47.50	57.75	58.55	59.35	60.15	60.95	62.00	63.10	64.20	
	3 ¹ / ₁₆ " 3 ¹ / ₂	4 ¹³ / ₁₆	20	47.50	59.00	59.85	60.70	61.55	62.45	63.50	64.60	65.75	
	3 ⁹ / ₁₆ " 4	5 ⁷ / ₁₆	20	47.50	60.25	61.15	62.05	62.95	63.85	65.00	66.20	67.40	
	4 ¹ / ₁₆ " 4 ¹ / ₂	5 ¹³ / ₁₆	20	47.50	61.50	62.50	63.50	64.50	65.50	66.75	68.00	69.25	
16	2 ³ / ₁₆ " 2 ³ / ₄	4 ⁷ / ₁₆	25	60.00	70.75	71.50	72.25	73.00	73.75	74.75	75.75	76.75	
	2 ¹³ / ₁₆ " 3 ¹ / ₄	4 ¹³ / ₁₆	25	60.00	72.00	72.80	73.60	74.40	75.20	77.25	78.35	79.45	
	3 ⁹ / ₁₆ " 3 ³ / ₄	5 ⁷ / ₁₆	25	60.00	73.25	74.15	75.05	75.95	76.85	78.00	79.20	80.40	
	3 ¹³ / ₁₆ " 4 ¹ / ₄	5 ¹³ / ₁₆	25	60.00	74.75	75.75	76.75	77.75	78.75	80.00	81.25	82.50	
	4 ⁵ / ₁₆ " 4 ³ / ₄	6 ⁷ / ₁₆	25	60.00	76.25	77.35	78.45	79.55	80.65	82.00	83.50	84.00	
18	4 ¹³ / ₁₆ " 5	6 ¹³ / ₁₆	25	60.00	77.75	79.00	80.25	81.50	82.75	84.25	85.75	87.25	
	2 ⁷ / ₁₆ " 3	4 ¹³ / ₁₆	34	75.00	87.50	88.30	89.10	89.90	90.95	92.00	93.10	94.20	
	3 ⁹ / ₁₆ " 3 ¹ / ₂	5 ⁷ / ₁₆	34	75.00	88.75	89.65	90.55	91.45	92.35	93.50	94.70	95.90	
	3 ¹³ / ₁₆ " 4	5 ¹³ / ₁₆	34	75.00	90.25	91.25	92.25	93.25	94.25	95.00	96.75	98.00	
	4 ¹ / ₁₆ " 4 ¹ / ₂	6 ⁷ / ₁₆	34	75.00	91.75	92.85	93.95	95.05	96.15	97.50	99.00	100.50	
20	4 ⁵ / ₁₆ " 5	6 ¹³ / ₁₆	34	75.00	93.25	94.50	95.75	97.00	98.25	99.75	101.25	102.75	
	5 ¹ / ₁₆ " 5 ¹ / ₂	7 ⁷ / ₁₆	34	75.00	94.75	96.15	97.55	98.95	100.35	102.00	103.75	105.50	
	2 ¹¹ / ₁₆ " 3 ¹ / ₄	5 ⁷ / ₁₆	45	95.00			112.00	113.00	113.90	114.95	116.25	117.45	\$119.50
	3 ⁹ / ₁₆ " 3 ³ / ₄	5 ¹³ / ₁₆	45	95.00			113.50	114.50	115.50	116.75	118.00	119.25	122.25
	3 ¹³ / ₁₆ " 4 ¹ / ₄	6 ⁷ / ₁₆	45	95.00			114.00	115.25	116.50	118.00	119.50	121.00	124.00
22	4 ⁵ / ₁₆ " 4 ³ / ₄	6 ¹³ / ₁₆	45	95.00			116.00	117.50	119.00	120.50	122.00	124.00	128.50
	4 ¹³ / ₁₆ " 5 ¹ / ₄	7 ⁷ / ₁₆	45	95.00			118.00	119.50	121.00	122.50	124.00	126.00	131.00
	5 ⁹ / ₁₆ " 5 ³ / ₄	7 ¹³ / ₁₆	45	95.00			119.50	121.00	122.50	124.00	125.75	127.50	132.00
	5 ¹³ / ₁₆ " 6	8 ⁷ / ₁₆	45	95.00			121.50	123.25	125.00	126.75	128.75	130.75	134.75
	2 ¹¹ / ₁₆ " 3 ¹ / ₄	5 ⁷ / ₁₆	55	120.00			137.00	138.00	138.90	139.95	141.25	142.45	144.50
24	3 ⁹ / ₁₆ " 3 ³ / ₄	5 ¹³ / ₁₆	55	120.00			138.50	139.50	140.50	141.75	143.00	144.50	147.25
	3 ¹³ / ₁₆ " 4 ¹ / ₄	6 ⁷ / ₁₆	55	120.00			139.00	140.25	141.50	143.00	144.50	146.00	149.00
	4 ¹ / ₁₆ " 4 ³ / ₄	6 ¹³ / ₁₆	55	120.00			140.50	142.50	144.00	145.50	147.00	149.00	153.50
	4 ⁵ / ₁₆ " 5 ¹ / ₄	7 ⁷ / ₁₆	55	120.00			142.50	144.50	146.00	147.50	149.00	151.00	156.00
	5 ⁹ / ₁₆ " 5 ³ / ₄	7 ¹³ / ₁₆	55	120.00			144.50	146.00	147.50	149.00	150.75	152.50	157.00
24	5 ¹³ / ₁₆ " 6	8 ⁷ / ₁₆	55	120.00			146.50	148.25	150.00	151.75	153.75	155.75	159.75
	2 ¹⁵ / ₁₆ " 3 ¹ / ₂	5 ¹³ / ₁₆	65	150.00			170.00	171.00	172.00	173.25	174.50	175.75	178.75
	3 ⁹ / ₁₆ " 4	6 ⁷ / ₁₆	65	150.00			172.00	173.75	174.50	176.00	177.50	179.00	182.00
	4 ¹ / ₁₆ " 4 ¹ / ₂	6 ¹³ / ₁₆	65	150.00			174.00	176.00	177.50	179.00	180.50	182.50	187.00
	4 ⁵ / ₁₆ " 5	7 ⁷ / ₁₆	65	150.00			177.00	179.00	180.50	182.00	183.50	185.50	190.50
	5 ⁹ / ₁₆ " 5 ¹ / ₂	7 ¹³ / ₁₆	65	150.00			180.00	181.50	183.00	184.50	186.25	188.00	192.50
	5 ¹³ / ₁₆ " 6	8 ⁷ / ₁₆	65	150.00			183.00	184.75	186.50	188.50	190.25	192.25	196.50
	6 ¹ / ₁₆ " 6 ¹ / ₂	8 ¹³ / ₁₆	65	150.00			186.00	188.00	190.00	192.00	194.25	196.50	201.00
	6 ⁹ / ₁₆ " 7	9 ⁷ / ₁₆	65	150.00			189.00	191.25	193.50	195.50	198.25	200.75	205.75
	7 ¹ / ₁₆ " 7 ¹ / ₂	9 ¹³ / ₁₆	65	150.00			192.00	194.50	197.00	199.50	202.00	205.00	211.00

Single Disc Solid Universal Giant Friction Clutches

Price List—Continued

Clutch Numbers	Range of Bores in Clutch, Inches	Outside Diameter of Sleeve, Inchees	Horse Power at 100 R.P.M.	Price of Clutch without Sleeve	Price of Clutch with Sleeve for Pulley—Nominal Face in Inches								
					6 Face	8 Face	10 Face	12 Face	14 Face	16 Face	18 Face	20 Face	24 Face
28	3 $\frac{7}{16}$ to 4	6 $\frac{15}{16}$	85	\$180.00				\$207.00	\$208.50	\$210.00	\$211.50	\$213.50	\$218.00
	4 $\frac{1}{16}$ " 4 $\frac{1}{2}$	7 $\frac{1}{16}$	85	180.00				210.00	211.50	213.00	214.50	216.50	221.50
	4 $\frac{9}{16}$ " 5	7 $\frac{15}{16}$	85	180.00				213.00	214.50	216.00	217.75	219.50	224.00
	5 $\frac{1}{16}$ " 5 $\frac{1}{2}$	8 $\frac{1}{16}$	85	180.00				216.00	218.00	220.00	222.00	224.00	228.00
	5 $\frac{9}{16}$ " 6	8 $\frac{15}{16}$	85	180.00				220.00	222.50	225.00	227.25	229.50	234.00
	6 $\frac{1}{16}$ " 6 $\frac{1}{2}$	9 $\frac{1}{16}$	85	180.00				225.00	227.50	230.00	232.50	235.00	240.00
	6 $\frac{9}{16}$ " 7	9 $\frac{15}{16}$	85	180.00				232.50	235.00	237.50	240.00	243.00	249.00
	7 $\frac{1}{16}$ " 7 $\frac{1}{2}$	10 $\frac{1}{16}$	85	180.00				239.00	242.00	245.00	248.00	251.00	260.00
	7 $\frac{9}{16}$ " 8	10 $\frac{15}{16}$	85	180.00				249.00	252.00	255.00	258.50	262.00	271.00
	32	3 $\frac{15}{16}$ " 4 $\frac{1}{2}$	7 $\frac{15}{16}$	120	230.00						268.50	270.25	272.00	276.50
4 $\frac{9}{16}$ " 5		8 $\frac{1}{16}$	120	230.00						272.50	274.50	276.50	280.50
5 $\frac{1}{16}$ " 5 $\frac{1}{2}$		8 $\frac{15}{16}$	120	230.00						277.50	279.75	282.00	286.50
5 $\frac{9}{16}$ " 6		9 $\frac{1}{16}$	120	230.00						285.00	287.50	290.00	295.00
6 $\frac{1}{16}$ " 6 $\frac{1}{2}$		9 $\frac{15}{16}$	120	230.00						292.50	295.00	298.00	304.00
6 $\frac{9}{16}$ " 7		10 $\frac{1}{16}$	120	230.00						300.00	303.00	306.00	315.00
7 $\frac{1}{16}$ " 7 $\frac{1}{2}$		10 $\frac{15}{16}$	120	230.00						310.00	313.50	317.00	326.00
7 $\frac{9}{16}$ " 8		11 $\frac{1}{16}$	120	230.00						315.00	329.00	333.00	343.00
8 $\frac{1}{16}$ " 8 $\frac{1}{2}$		11 $\frac{15}{16}$	120	230.00						340.00	345.00	350.00	362.50
8 $\frac{9}{16}$ " 9		12 $\frac{1}{16}$	120	230.00						355.00	360.00	365.00	385.00
36	4 $\frac{7}{16}$ " 9		150	300.00									
42	4 $\frac{15}{16}$ " 9 $\frac{1}{2}$		180	450.00									
48	4 $\frac{15}{16}$ " 10		240	750.00									

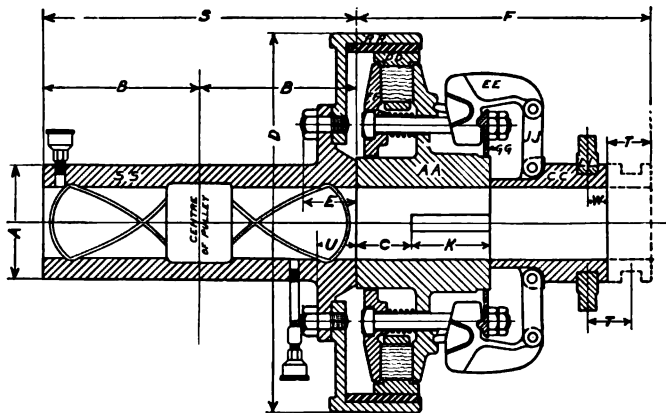
Quills are recommended for use with pulleys of greater capacity than No. 32 clutch. See page 38.

Quills are recommended for use with pulleys of greater capacity than No. 32 clutch. See page 38.

Price of clutch and pulley, complete, is obtained by adding net cost of clutch with sleeve to net cost of regular pulley of proper bore. Prices include yoke and fulcrum for lever. (Fig. T-393, page 83).

Maximum speeds at which standard clutches will satisfactorily operate and extras charged for higher speeds will be found in table, page 70.

To obtain list prices of Nos. 14 to 48 single disc split clutches, add 25 per cent to list prices of solid clutches of same size. See page 75 for dimensions.



Clutch Numbers	H.P. at 100 R.P.M.	Max. Bore, Inches	Dimensions in Inches									
			A	C	D	E	F	K	S	T	U	W
14	20	4 $\frac{1}{2}$	See diameter of sleeves, page 74.	1 $\frac{3}{8}$	16 $\frac{1}{2}$	2 $\frac{1}{8}$	11 $\frac{7}{8}$	4	See length of sleeves, page 74	1 $\frac{3}{4}$	1 $\frac{1}{2}$	1
16	25	5		1 $\frac{7}{8}$	19	2 $\frac{1}{2}$	13 $\frac{1}{2}$	4 $\frac{1}{4}$		2	1 $\frac{3}{4}$	1 $\frac{1}{8}$
18	34	5 $\frac{1}{2}$		2	21 $\frac{1}{2}$	2 $\frac{5}{8}$	14 $\frac{1}{4}$	4 $\frac{1}{2}$		2 $\frac{1}{4}$	1 $\frac{7}{8}$	1 $\frac{1}{8}$
20	45	6		1 $\frac{3}{4}$	24	2 $\frac{7}{8}$	14 $\frac{3}{4}$	5		2 $\frac{1}{2}$	2	1 $\frac{1}{8}$
22	55	6		1 $\frac{1}{2}$	26	2 $\frac{7}{8}$	14 $\frac{3}{4}$	5 $\frac{1}{2}$		2 $\frac{1}{2}$	2	1 $\frac{1}{8}$
24	65	7 $\frac{1}{2}$		1 $\frac{5}{8}$	29	3 $\frac{1}{4}$	16 $\frac{5}{8}$	6		2 $\frac{3}{4}$	2 $\frac{5}{16}$	1 $\frac{1}{4}$
28	85	8	Quills are recommended for these sizes	1	34	3 $\frac{5}{8}$	18 $\frac{5}{8}$	7	Quills are recommended for these sizes	3 $\frac{1}{2}$	2 $\frac{9}{16}$	1 $\frac{1}{4}$
32	120	8 $\frac{1}{2}$		1 $\frac{1}{2}$	38	3 $\frac{3}{4}$	20 $\frac{5}{8}$	8		4	2 $\frac{1}{2}$	1 $\frac{1}{4}$
36	150	9		1	43	4	23 $\frac{1}{2}$	9		4	2 $\frac{3}{4}$	1 $\frac{1}{2}$
42	180	9 $\frac{1}{2}$		0	49	4	23 $\frac{1}{2}$	10		4	2 $\frac{3}{4}$	1 $\frac{1}{2}$
48	240	10		0	56	4 $\frac{3}{4}$	27	11		5	3 $\frac{1}{4}$	1 $\frac{3}{4}$

S=Length of Sleeves. B=One-half of S.



Single Disc Solid Universal Giant Friction Clutches

Standard Sleeve Lengths for Use with Pulleys of Specified Faces

Clutch Numbers	Nominal Face of Pulley in Inches									
	6	8	10	12	14	16	18	20	22	24
	Length of Sleeve in Inches									
14	9	11	13	15	17	19				
16	9 1/4	11 1/4	13 1/4	15 1/4	17 1/4	19 1/4	21 1/4			
18			13 3/8	15 3/8	17 3/8	19 3/8	21 3/8	23 3/8		
20			13 1/2	15 1/2	17 1/2	19 1/2	21 1/2	23 1/2		
22			13 1/2	15 1/2	17 1/2	19 1/2	21 1/2	23 1/2		
24			13 3/4	15 3/4	17 3/4	19 3/4	21 3/4	23 3/4		
28				16	18	20	22	24	26 1/4	28 1/4
32						20 1/4	22 1/4	24 1/4		

Diameter of Sleeves, Dimension A

Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve in Inches			Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve in Inches			Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve in Inches		
		Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing			Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing			Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing
14	1 15/16	3 15/16	3 15/16	3 15/16	18	4 11/16	6 15/16	7 7/16	7 7/16	24	4 7/16	6 15/16	7 7/16	7 15/16
	2 3/16	3 15/16	4 7/16	4 7/16		4 15/16	6 15/16	7 7/16	7 15/16		4 11/16	6 15/16	7 7/16	7 15/16
	2 7/16	3 15/16	4 7/16	4 15/16		5 1/16	7 7/16	8 7/16	8 7/16		4 15/16	7 7/16	8 7/16	8 7/16
	2 11/16	4 7/16	4 15/16	4 15/16							5 7/16	7 15/16	8 15/16	8 15/16
	2 15/16	4 7/16	4 15/16	5 7/16		2 11/16	5 7/16	5 7/16	5 7/16		5 15/16	8 7/16	9 7/16	9 7/16
	3 3/16	4 15/16	5 7/16	5 7/16		2 15/16	5 7/16	5 15/16	5 15/16		6 7/16	8 15/16	9 15/16	9 15/16
	3 7/16	4 15/16	5 7/16	5 15/16		3 3/16	5 7/16	5 15/16	6 7/16		6 15/16	9 7/16	10 7/16	10 7/16
	3 11/16	5 7/16	5 15/16	5 15/16		3 7/16	5 15/16	6 7/16	6 7/16		6 15/16	9 15/16	10 15/16	10 15/16
	3 15/16	5 7/16	5 15/16	6 7/16		3 11/16	5 15/16	6 7/16	6 15/16		7 7/16	10 15/16	11 7/16	11 7/16
	4 3/16	5 15/16	6 7/16	6 7/16		3 15/16	6 7/16	6 15/16	6 15/16		7 15/16	10 15/16	11 15/16	11 15/16
16	4 7/16	5 15/16	6 7/16	6 15/16	20	4 7/16	6 15/16	7 7/16	7 15/16	28	3 7/16	6 15/16	6 15/16	7 7/16
	2 3/16	4 7/16	4 7/16	4 7/16		4 11/16	6 15/16	7 7/16	7 15/16		3 11/16	6 15/16	7 7/16	7 15/16
	2 7/16	4 7/16	4 15/16	4 15/16		4 15/16	7 7/16	7 15/16	7 15/16		3 15/16	6 15/16	7 7/16	7 15/16
	2 11/16	4 7/16	4 15/16	4 15/16		4 15/16	7 7/16	7 15/16	7 15/16		4 3/16	7 7/16	7 15/16	7 15/16
	2 15/16	4 15/16	5 7/16	5 7/16		5 1/16	7 15/16	8 7/16	8 15/16		4 7/16	7 7/16	8 7/16	8 7/16
	3 3/16	4 15/16	5 7/16	5 15/16		5 15/16	8 7/16	8 15/16	9 7/16		4 11/16	7 15/16	8 7/16	8 7/16
	3 7/16	5 7/16	5 15/16	5 15/16							4 15/16	7 15/16	8 15/16	8 15/16
	3 11/16	5 7/16	5 15/16	5 15/16		2 15/16	5 7/16	5 15/16	5 15/16		4 15/16	7 15/16	8 15/16	8 15/16
	3 15/16	5 15/16	6 7/16	6 7/16		3 3/16	5 7/16	5 15/16	6 7/16		5 7/16	8 15/16	9 7/16	9 7/16
	4 3/16	5 15/16	6 15/16	6 15/16		3 7/16	5 15/16	6 7/16	6 7/16		5 15/16	8 15/16	9 15/16	9 15/16
18	4 7/16	6 7/16	6 15/16	6 15/16		3 11/16	5 15/16	6 7/16	6 15/16		6 7/16	9 15/16	10 7/16	10 7/16
	4 11/16	6 15/16	7 7/16	7 7/16	22	3 15/16	6 7/16	6 15/16	6 15/16	32	6 15/16	9 15/16	10 15/16	10 15/16
	4 15/16	6 15/16	7 7/16	7 7/16		4 3/16	6 15/16	7 7/16	7 7/16		7 15/16	10 15/16	11 7/16	11 7/16
	2 7/16	4 7/16	4 7/16	4 7/16		4 7/16	6 15/16	7 7/16	7 15/16		7 15/16	10 15/16	11 7/16	11 7/16
	2 11/16	4 7/16	4 15/16	4 15/16		4 11/16	6 15/16	7 7/16	7 15/16		8 7/16	10 15/16	11 7/16	11 7/16
	2 15/16	4 15/16	5 7/16	5 7/16		4 15/16	7 7/16	8 7/16	8 15/16		8 7/16	10 15/16	11 7/16	11 7/16
	3 3/16	5 7/16	5 15/16	5 15/16		4 15/16	7 7/16	8 7/16	8 15/16		8 15/16	10 15/16	11 7/16	11 7/16
	3 7/16	5 7/16	5 15/16	5 15/16		4 15/16	7 7/16	8 7/16	8 15/16		8 15/16	10 15/16	11 7/16	11 7/16
	3 11/16	5 15/16	6 7/16	6 7/16		4 15/16	7 7/16	8 7/16	8 15/16		8 15/16	10 15/16	11 7/16	11 7/16
	3 15/16	5 15/16	6 7/16	6 15/16		4 15/16	7 7/16	8 7/16	8 15/16		8 15/16	10 15/16	11 7/16	11 7/16
	4 3/16	6 7/16	6 15/16	6 15/16		4 15/16	7 7/16	8 7/16	8 15/16		8 15/16	10 15/16	11 7/16	11 7/16



Fig. T-379



Fig. T-379A

Single Disc Split Universal Giant Friction Clutches

Sleeves Separate

Price List, Plain Bored Sleeves

Clutch Numbers	Range of Bores, Inches	Outside Diameter Plain Bore Sleeve, Inches	Horse Power at 100 R.P.M.	Price of Clutch without Sleeve	Price of Clutch with Sleeve for Pulley of Nominal Width Face, Inches					
					4	5	6	8	10	12
7	1 1/16 to 2 1/4	3 1/16	3 1/2	\$36.00	\$44.00	\$44.50	\$45.00			
8	1 7/16 to 2 1/4	3 3/16	37.00		45.00	45.50	46.00			
9	2 1/16 to 3 1/4	4 1/16	6	42.00	51.50	52.00	52.50	\$47.50		
10	1 1/16 to 2 1/2	3 1/2	10	45.40	54.40	54.90	55.40	56.90	\$57.70	
10	2 9/16 to 3	3 15/16	10	49.70	59.95		60.95	62.45	63.25	
11	3 1/16 to 4	5 3/16	11	50.00			62.00	63.50	64.40	\$65.30
12	1 1/16 to 2 1/2	3 1/2	15	51.50			62.75	64.25	65.15	66.05
12	2 3/16 to 2 3/4	3 15/16	15	56.00			68.50	70.15	72.10	73.05
12	2 1/16 to 3 1/4	4 7/16	15	56.00			69.75	71.50	72.50	73.50
12	3 3/16 to 3 3/4	4 15/16	15	56.00			71.00	73.00	74.00	75.25
12	3 1/16 to 4	5 7/16	15	56.00			72.25	74.25	75.50	77.00

To obtain list prices of Nos. 14 to 48 single disc split clutches, add 25 per cent to list prices of solid clutches of same size. See pages 72 and 73.

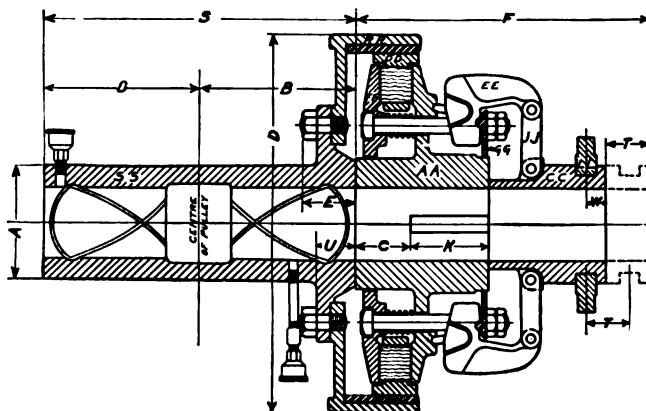
Maximum speeds at which standard clutches will satisfactorily operate and extras charged for higher speeds, given on page 70. List prices include shifter yoke and fulcrum. (Fig. T-303).

Clutch Numbers	H. P. at 100 R.P.M.	Max. Bore, Inches	Dimensions in Inches									
			A	C	D*	E	F	K	S	T	U	W
7	3 1/2	2 3/4		1	12	2 1/8	8	2 1/2		1 1/8	1 11/16	5/8
8	5 1/2	2 1/4		1 1/2	13	2 3/4	9 3/8	2 3/4		1 1/4	1 13/16	3/4
9	6	3 1/4		1 3/4	14	2 3/4	9 3/8	2 3/4		1 1/4	1 13/16	3/4
10	10	3		1 5/8	15 1/2	2 3/4	10 3/8	3 1/4		1 3/8	1 15/16	7/8
11	11	4		1 5/8	16 1/2	2 3/4	10 3/8	3 1/4		1 3/8	1 15/16	7/8
12	15	4	Same as Solid Clutches, see tables, pages 71 and 74.	1 5/8	19	2 3/8	11 1/8	3 1/2	See following table for length of sleeves.	1 3/4	2	1
14	20	4 1/2		1 5/8	21	2 3/8	11 1/8	4		1 3/4	2 1/4	1 1/8
16	25	5		1 7/8	24	3 1/4	13 1/2	4 1/4		2	2 1/2	1 1/8
18	34	5 1/2		2	26 1/2	3 7/8	14 1/4	4 1/2		2 1/4	3 1/8	1 1/8
20	45	6		1 3/4	29	4 1/8	14 3/4	5		2 1/2	3 3/8	1 1/8
22	55	6		1 3/4	31	4 1/8	14 3/4	5 1/2		2 3/4	3 3/8	1 1/8
24	65	7 1/2		1 3/8	34 1/2	4 3/8	16 3/8	6		2 3/4	3 11/16	1 1/4
28	85	8		1	40	5 1/8	18 3/8	7		3 1/2	4 1/8	1 1/4
32	120	8 1/2		1 1/2	44	5 1/2	20 3/8	8		4	4 1/4	1 1/4
36	150	9		1	49 1/2	6 1/8	23 1/2	9	Use quills for these clutches see page 38.	4	4 1/4	1 1/2
42	180	9 1/2	Use quills for these clutches see page 38.	0	55 1/2	6 3/8	23 1/2	10		4	4 1/4	1 1/2
48	240	10		0	63	7 3/8	27	11		5	5 1/4	1 3/4

*D—diameter outside to outside of split lugs.

Standard Sleeve Lengths for Use with Pulleys of Faces Specified

Clutch Numbers	Nominal Face of Pulley in Inches											
	4	5	6	8	10	12	14	16	18	20	22	24
	Length of Sleeve in Inches											
7	8	9	10									
8	8	9	10									
10	8	9	10									
11	8	9	10									
12	8	9	10	12								
14	8	9	10	12	14							
16	8	9	10	12	14	16						
18	8	9	10	12	14	16	18					
20	8	9	10	12	14	16	18	20				
22	8	9	10	12	14	16	18	20	22 1/2			
24	8	9	10	12	14	16	18	20	22 1/2	25		
26	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
28	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
30	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
32	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
34	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
36	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
38	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
40	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
42	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
44	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
46	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	
48	8	9	10	12	14	16	18	20	22 1/2	25	24 1/2	





Double Disc Solid and Split Universal Giant Friction Clutches

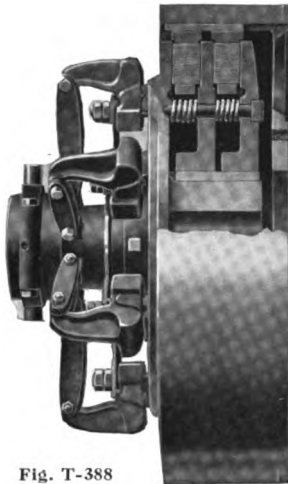
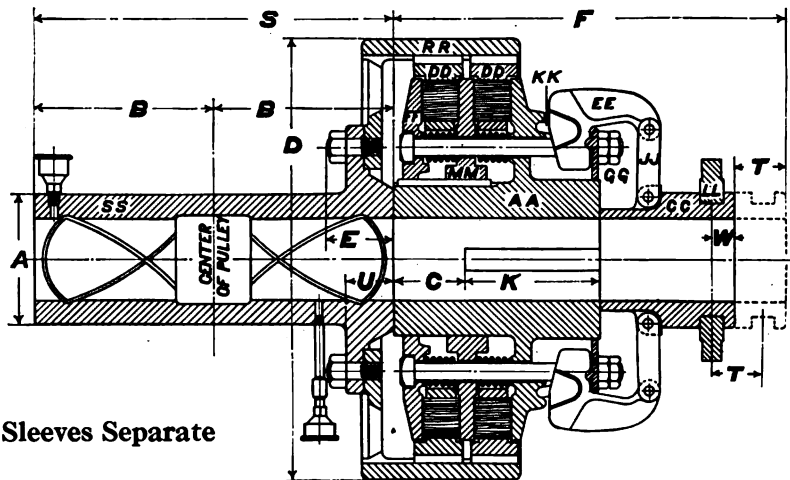


Fig. T-388



Sleeves Separate

Price List of Solid with Plain Bored Sleeves*

Clutch Numbers	Range of Bores in Clutch, Inches	Outside Diameter of Plain Bored Sleeve, Inches	Horse Power at 100 R.P.M.	List Price of Clutch without Sleeve	List Price of Clutch with Sleeve for Pulley with Nominal Face Width in Inches as Specified									
					6	8	10	12	14	16	18	20	22	24
12	1 1/16 to 1 15/16	3 15/16	30	\$60.00	\$69.50	\$70.25	\$71.00	\$71.75	\$72.50	\$73.50	\$74.50	\$75.50		
	2 3/16 " 2 11/16	4 7/16	30	60.00	70.75	71.50	72.25	73.00	73.75	74.75	75.75	76.75		
	2 15/16 " 3 1/16	4 15/16	30	60.00	72.00	72.80	73.60	74.40	75.20	77.25	78.35	79.45		
	3 7/16 " 3 11/16	5 7/16	30	60.00	73.25	74.15	75.05	75.95	76.85	78.00	79.20	80.40		
14	1 15/16 " 2 3/16	4 7/16	40	80.00	91.25	92.05	92.85	93.65	94.65	94.70	95.80	96.90		
	2 7/16 " 2 15/16	4 15/16	40	80.00	92.50	93.30	94.10	94.90	95.95	97.00	98.10	99.20		
	3 3/16 " 3 7/16	5 7/16	40	80.00	93.75	94.65	95.55	96.45	97.35	98.50	99.70	100.90		
	3 11/16 " 4 1/16	5 15/16	40	80.00	95.25	96.25	97.25	98.25	99.25	100.00	101.75	103.00		
16	2 1/16 " 2 7/16	4 15/16	50	100.00	114.00	114.80	115.60	116.50	117.30	118.30	119.50	119.70	\$120.70	\$121.70
	2 7/16 " 3 1/16	5 7/16	50	100.00	115.20	116.10	117.00	117.90	118.90	119.95	121.25	122.45	123.45	124.50
	3 1/16 " 3 7/16	5 15/16	50	100.00	116.70	117.60	118.50	119.50	120.50	121.75	123.00	124.25	125.75	127.25
	3 7/16 " 4 1/16	6 7/16	50	100.00	117.00	118.00	119.00	120.25	121.50	123.00	124.50	126.00	127.50	129.00
18	2 7/16 " 2 15/16	4 15/16	50	100.00	119.50	120.75	121.00	122.50	124.00	125.50	127.00	129.00	131.25	133.50
	2 15/16 " 3 1/16	5 7/16	68	125.00	141.00	142.00	143.00	144.00	145.50	147.00	148.50	150.00	152.00	154.50
	3 1/16 " 3 7/16	5 15/16	68	125.00	142.00	143.00	144.50	146.00	147.50	149.00	150.75	152.50	154.50	157.00
	3 7/16 " 4 1/16	6 7/16	68	125.00	143.50	145.00	146.50	148.25	150.00	151.75	153.75	155.75	157.75	159.75
20	3 11/16 " 4 1/16	6 15/16	68	125.00	145.50	147.00	148.50	150.00	151.75	153.75	155.75	158.75	159.75	162.00
	4 1/16 " 4 7/16	7 7/16	68	125.00	147.50	149.00	150.75	152.50	154.50	156.50	158.75	161.00	163.50	166.00
	4 7/16 " 5 1/16	7 15/16	68	125.00	149.50	151.25	153.00	155.00	157.00	159.25	161.50	164.00	166.50	169.25
	2 7/16 " 2 15/16	5 15/16	90	160.00			181.50	183.00	184.50	186.25	188.00	190.00	192.00	194.25
22	2 15/16 " 3 1/16	6 7/16	90	160.00			184.50	186.25	188.00	190.00	191.75	193.75	195.75	198.00
	3 1/16 " 3 7/16	6 15/16	90	160.00			187.50	189.50	191.50	193.50	195.25	197.50	200.00	203.00
	3 7/16 " 4 1/16	7 7/16	90	160.00			190.50	192.75	195.00	197.25	199.50	202.00	205.00	208.00
	4 1/16 " 4 7/16	7 15/16	90	160.00			194.00	196.50	199.00	201.50	204.00	207.00	210.50	214.00
24	4 7/16 " 5 1/16	8 7/16	90	160.00			198.00	200.50	203.00	206.00	209.00	212.50	216.00	220.00
	2 15/16 " 3 3/16	6 7/16	110	200.00			226.50	228.50	230.50	232.50	234.50	236.50	239.00	241.50
	3 7/16 " 3 15/16	6 15/16	110	200.00			229.50	231.50	233.50	235.50	237.50	240.00	242.50	245.00
	4 3/16 " 4 7/16	7 7/16	110	200.00			232.50	234.50	237.00	239.50	242.00	244.50	248.00	251.00
28	4 11/16 " 5 1/16	7 15/16	110	200.00			237.00	239.50	242.00	245.00	248.00	251.00	254.50	258.00
	5 1/16 " 5 7/16	8 7/16	110	200.00			243.00	246.00	249.00	252.00	255.00	258.50	262.00	265.00
	2 15/16 " 3 3/16	6 15/16	130	250.00			282.50	284.50	286.50	288.50	291.00	292.50	295.00	297.50
	3 7/16 " 3 11/16	7 7/16	130	250.00			285.50	287.50	289.50	292.00	294.50	297.00	300.00	303.00
32	3 15/16 " 4 1/16	7 15/16	130	250.00			289.00	291.00	293.50	296.00	298.50	301.50	305.00	309.00
	4 1/16 " 4 7/16	8 15/16	130	250.00			293.00	295.50	298.00	300.50	303.50	307.00	310.50	316.00
	5 1/16 " 5 7/16	9 15/16	130	250.00			299.00	301.50	304.00	306.50	309.50	313.00	317.00	323.00
	6 1/16 " 6 7/16	10 15/16	130	250.00			305.00	307.50	310.00	313.00	316.00	320.00	324.00	331.00
36	6 7/16 " 7 1/16	11 15/16	130	250.00			312.00	314.50	317.00	320.00	323.00	327.00	332.00	340.00
	7 1/16 " 7 7/16	12 1/16	130	250.00			320.00	323.00	326.00	330.00	334.00	339.00	344.00	353.00
	3 7/16 " 3 15/16	7 15/16	170	300.00				341.00	343.50	346.00	349.00	352.00	355.50	359.00
	4 3/16 " 4 7/16	8 7/16	170	300.00				345.00	347.50	350.50	353.50	357.00	361.00	365.00
40	4 11/16 " 5 1/16	8 15/16	170	300.00				350.00	353.00	356.00	359.50	363.50	367.50	372.00
	5 1/16 " 5 7/16	9 15/16	170	300.00				356.00	359.00	362.50	366.50	370.50	375.00	380.00
	6 1/16 " 6 7/16	10 15/16	170	300.00				363.00	366.50	370.50	374.50	379.00	384.00	389.00
	7 1/16 " 7 7/16	11 15/16	170	300.00				371.00	375.00	379.00	383.50	388.50	394.50	400.00
48	8 1/16 " 8 7/16	12 15/16	170	300.00				380.00	384.00	388.50	393.50	399.50	405.00	412.00
	9 1/16 " 9 7/16	13 1/16	170	300.00				392.00	396.00	401.00	407.00	414.00	422.00	430.00
	3 15/16 " 4 3/16	8 3/16	240	400.00										
	4 7/16 " 4 15/16	9 3/16	300	500.00										
	4 15/16 " 5 3/16	9 3/16	360	675.00										
	4 15/16 " 5 3/16	9 3/16	480	900.00										

Quills are recommended for use with clutches of greater capacity than our No. 28 double disc, see page 38.

*For list prices of Nos. 12 to 48 double disc split clutches add 25 per cent to list prices of solid clutches of same size.

List prices include shifter yoke and fulcrum (Fig. T-393) page 88.

Maximum speeds at which standard clutches will satisfactorily operate and extras charged for higher speeds given on page 70.

Double Disc Solid and Split Universal Giant Friction Clutches

Clutch Numbers	H.P. at 100 R.P.M.	Dimensions in Inches											
		A	C	D*	E		F	K	S	T	U		W
					Solid	Split					Solid	Split	
12	30	See Diameter of Sleeves, Table Below	2¼	11⅞	2⅝	3⅛	13	4¼	See Length of Sleeves Below	1¾	1⅞	2⅞	1
14	40		2⅜	16⅞	2⅝	3⅜	13½	4¾		2	1⅞	2⅞	1⅞
16	50		2⅞	19⅜	2⅞	3⅜	15⅞	5¼		2¼	2⅞	2⅞	1⅞
18	68		2⅞	21⅞	2⅞	4⅞	17	6		2⅝	2⅞	3⅞	1⅞
20	90		2¼	21⅜	3¼	4⅞	17⅜	7		2⅞	2⅞	3⅞	1⅞
22	110		1½	26⅜	3¼	4⅞	17⅞	8		2⅞	2⅞	3⅞	1⅞
24	130		1⅞	29¼	3⅝	5⅞	19¾	8½		3⅞	2⅞	3⅞	1⅞
28	170		1⅞	34½	4¼	5¾	21¾	9		3⅞	3⅞	4½	1⅞
32	240		2¼	38½	4¾	6¾	23⅞	10		4½	3	5	1⅞
36	300		2⅞	43½	5	7¾	27⅞	11		5	3¼	5⅞	1½
42	360	Use Quill, Page 38	1⅞	49½	5	7¾	27⅞	12	Use Quill, Page 38	5	3¼	5⅞	1½
48	480		2⅞	56½	5⅞	8¾	31⅞	12		6	3¼	6⅞	1½

Standard Sleeve Lengths For Use With Pulleys of Specified Faces

Clutch Numbers	Nominal Face of Pulley in Inches										Additional Length Added to Sleeve Length for Sleeves Fitted to Split Clutches
	6	8	10	12	14	16	18	20	22	24	
	Sleeve Lengths Solid or Split Fitted to Solid Clutches, in Inches										
12	9	11	13	15	17	19					1
14	9	11	13	15	17	19					1
16	9¼	11¼	13¼	15¼	17¼	19¼	21¼				1¼
18			13¾	15¾	17¾	19¾	21¾	23¾			1½
20			13½	15½	17½	19½	21½	23½			1½
22			13½	15½	17½	19½	21½	23½			1½
24			13¾	15¾	17¾	19¾	21¾	23¾			1½
28				16	18	20	22	24	26	28	1½

Outside Diameter A in Inches

Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve			Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve			Clutch Numbers	Shaft Sizes, Inches	Outside Diameter of Sleeve		
		Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing			Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing			Plain Bore	Phosphor-Bronze Bushing	Bronze Graphite Bushing
12-DD	1 1/8	3 1/8	4 7/8	4 7/8	18-DD	2 7/8	4 1/8	5 7/8	5 1/8	24-DD	3 3/8	6 1/8	7 7/8	7 7/8
	2 3/8	4 7/8	4 7/8	4 7/8		2 1/4	5 1/8	5 1/8	5 1/8		3 7/8	7 1/8	7 1/8	7 1/8
	2 7/8	4 1/8	4 1/8	4 1/8		2 1/8	5 1/8	5 1/8	5 1/8		3 1/4	7 1/8	7 1/8	7 1/8
	2 1/4	4 7/8	4 1/8	4 1/8		3 3/8	5 1/8	6 1/8	6 1/8		3 1/8	7 1/8	7 1/8	7 1/8
	2 1/8	4 1/8	5 7/8	5 7/8		3 7/8	5 1/8	6 1/8	6 1/8		4 3/8	7 1/8	8 1/8	8 1/8
	3 7/8	4 1/8	5 7/8	5 1/8		3 1/8	6 1/8	6 1/8	6 1/8		4 7/8	7 1/8	8 1/8	8 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		3 1/8	6 1/8	6 1/8	6 1/8		4 1/8	8 1/8	9 1/8	9 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 3/8	6 1/8	7 7/8	7 7/8		4 1/8	8 1/8	9 1/8	9 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 7/8	6 1/8	7 7/8	7 7/8		5 7/8	8 1/8	9 1/8	9 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 1/8	7 7/8	7 1/8	7 1/8		5 1/8	8 1/8	9 1/8	9 1/8
14-DD	1 1/8	4 7/8	4 7/8	4 1/8	20-DD	2 1/8	5 1/8	6 7/8	6 7/8	28-DD	4 1/8	6 1/8	7 1/8	7 1/8
	2 3/8	4 7/8	4 1/8	4 1/8		2 1/8	6 7/8	6 7/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	2 7/8	4 1/8	4 1/8	5 7/8		3 3/8	6 7/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	2 1/4	4 1/8	5 7/8	5 1/8		3 1/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	2 1/8	4 1/8	5 7/8	5 1/8		3 1/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	3 7/8	5 7/8	5 1/8	5 1/8		3 1/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 3/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 7/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 1/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
	3 1/8	5 7/8	5 1/8	5 1/8		4 1/8	6 1/8	6 1/8	6 1/8		4 1/8	6 1/8	7 1/8	7 1/8
16-DD	2 3/8	4 1/8	4 1/8	5 7/8	22-DD	2 1/8	5 1/8	6 7/8	6 7/8					
	2 7/8	4 1/8	5 7/8	5 7/8		2 1/8	6 7/8	6 7/8	6 7/8					
	2 1/4	4 1/8	5 7/8	5 7/8		3 3/8	6 7/8	6 7/8	6 7/8					
	2 1/8	4 1/8	5 7/8	5 7/8		3 1/8	6 7/8	6 7/8	6 7/8					
	3 7/8	5 7/8	5 1/8	5 1/8		3 1/8	6 7/8	6 7/8	6 7/8					
	3 1/8	5 7/8	5 1/8	5 1/8		3 1/8	6 7/8	6 7/8	6 7/8					
	3 1/8	5 7/8	5 1/8	5 1/8		4 3/8	6 7/8	6 7/8	6 7/8					
	3 1/8	5 7/8	5 1/8	5 1/8		4 7/8	6 7/8	6 7/8	6 7/8					
	3 1/8	5 7/8	5 1/8	5 1/8		4 1/8	6 7/8	6 7/8	6 7/8					
	3 1/8	5 7/8	5 1/8	5 1/8		4 1/8	6 7/8	6 7/8	6 7/8					

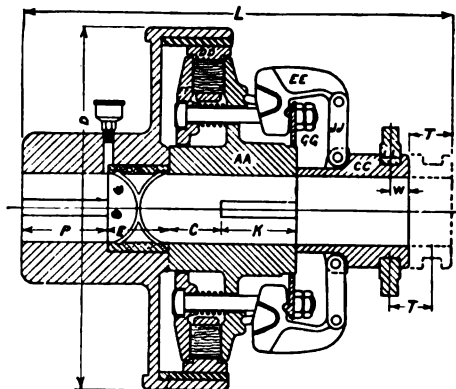
Quills are recommended for use with pulleys of greater capacity than Nos. 28 double disc clutch. See page 38.

*D Dimensions given are for solid clutches. For outside diameter of split clutches see page 75.

Single Disc Solid and Split Universal Giant Friction Clutch Cut-Off Couplings



Fig T-389



The number of the clutch to be used is determined by its capacity as compared with the capacity of the shaft which it drives. In every case, the capacity of the coupling should be greater or at least equal to the capacity of the shaft, unless the power to be transmitted is positively known to be less than the capacity of the shaft.

There is always a possibility of the power requirements being increased at some future time, either by adding pulleys on the shafts or by increasing the length of the line.

In fitting the Universal Giant coupling, the ends of shafts to be connected meet within the hub on back of clutch. This makes a true male and female connection and insures alignment of shafts.

A phosphor-bronze bushing is provided to carry the end of extended shaft.

Solid clutch cut-off couplings will be furnished on all orders unless split are specified.

In the following table clutches which should be used to connect the various sizes of shafting, are indicated.

Price List

Clutch Coupling Numbers	Shaft Sizes Inches, equal to Capacity of Couplings	Max. Bore, Inches	Horse Power at 100 R.P.M.	Dimensions in Inches								List Prices Solid	List Prices Split†
				D*	P	C	E	K	L	T	W		
5	1 5/16	1 1/2	1 3/4	6 1/2	2 1/4	3/4	1 3/8	2 1/4	10 5/8	1	5/8	\$18.00	
6	1 3/16	1 3/4	3	7 3/4	2 1/2	1	1 1/2	2 1/2	12	1 1/8	5/8	20.00	
8	1 7/16	2 1/4	5 1/2	10	2 3/4	1 1/2	1 3/4	2 3/4	13 7/8	1 1/4	3/4	26.00	\$44.00
10	1 11/16	3	10	12 1/4	3 1/4	1 5/8	2	3 1/4	15 7/8	1 3/8	7/8	36.00	52.90
12	1 15/16	4	15	14 1/2	3 1/2	1 5/8	2 1/4	3 1/2	16 7/8	1 1/2	1	45.00	60.00
14	2 3/16	4 1/2	20	16 1/2	4	1 3/8	2 1/2	4	18 1/8	1 3/4	1	56.00	68.00
16	2 7/16	5	25	19	4 1/4	1 7/8	2 3/4	4 1/4	20 1/2	2	1 1/8	75.00	90.00
18	2 11/16	5 1/2	34	21 1/2	4 1/2	2	3	4 1/2	21 3/4	2 1/4	1 1/8	96.00	116.00
20	2 15/16	6	45	24	5	1 3/4	3 1/4	5	22 3/4	2 1/2	1 1/8	120.00	145.00
22	3 3/16	6	55	26	5 1/2	1 1/2	3 1/2	5 1/2	25 1/8	2 1/2	1 1/8	150.00	180.00
24	3 7/16	7 1/2	65	29	6	1 5/8	3 3/4	6	26 5/8	2 3/4	1 1/4	180.00	210.00
28	3 15/16	8	85	34	7	1	4	7	29 5/8	3 1/2	1 1/4	220.00	260.00
32	4 7/16	8 1/2	120	38	8	1 1/2	4 1/2	8	33 1/8	4	1 1/4	275.00	320.00
36	4 15/16	9	150	43	9	1	5	9	37 1/2	4	1 1/2	350.00	410.00
42	5 7/16	9 1/2	180	49	10	0	6	10	39 1/2	4	1 1/2	525.00	615.00
48	5 15/16	10	240	56	11	0	6 1/2	11	44 1/2	5	1 3/4	850.00	1000.00

*D for split cut-off coupling is same as given for split clutches, page 75.

List prices include shifting yoke and fulcrum (Fig. T-393), page 83.

†Part T. T. or hub of split clutch is regularly made solid.

Maximum speeds at which standard clutches will operate satisfactorily and extras charged for higher speeds given on page 70.

An additional charge of 10 per cent will be made for cut-off couplings when furnished reducing for shafts of different diameters.

Double Disc Solid and Split Universal Giant Friction Clutch Cut-off Couplings

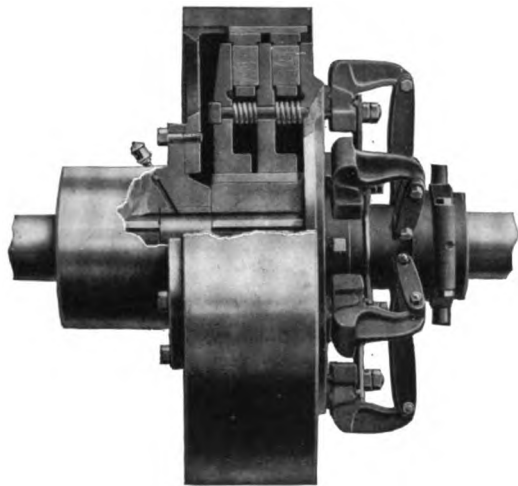
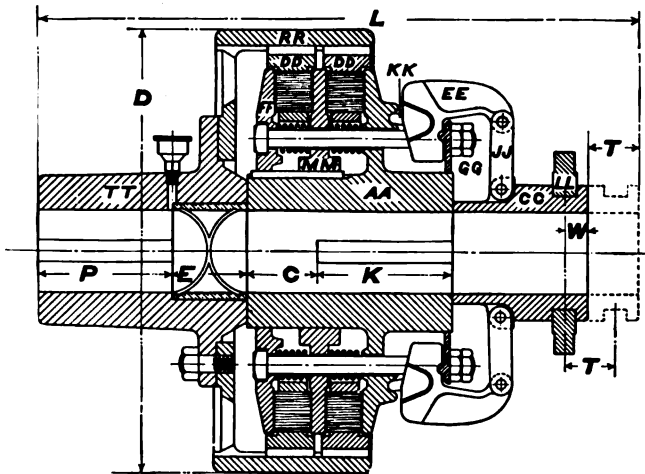


Fig. T-378



Price List

Clutch Coupling Numbers	Shaft Sizes, Inches, equal to Capacity of Coupling	Maxi- mum Bore, Inches	Horse Power at 100 R.P.M.	Dimensions in Inches								List Prices, Solid	List Prices, Split†
				D*	C	E	K	L	T	W	P		
12-DD	2 1/16	3 7/8	30	14 7/8	2 1/4	2 3/4	4 1/2	20 1/4	1 3/4	1	4 1/2	\$75.00	\$93.00
14-DD	2 5/16	4 3/8	40	16 7/8	2 3/8	3	4 3/4	21 5/8	2	1	4 3/4	95.00	115.00
16-DD	3 3/16	4 7/8	50	19 3/8	2 7/8	3 1/4	5 1/4	24 3/8	2 1/4	1 1/8	5 1/4	125.00	150.00
18-DD	3 11/16	5 3/8	68	21 7/8	2 7/8	3 1/4	6	26 1/4	2 5/8	1 1/8	6	160.00	195.00
20-DD	3 5/8	5 7/8	90	24 3/8	2 3/4	3 3/4	7	28 3/8	2 7/8	1 1/8	7	200.00	240.00
22-DD	4 3/16	5 7/8	110	26 3/8	1 1/2	3 3/4	8	29 5/8	2 7/8	1 1/8	8	245.00	295.00
24-DD	4 7/16	7 3/8	130	29 1/4	1 7/8	4	8 1/2	32 1/4	3 1/8	1 1/4	8 1/2	300.00	350.00
28-DD	4 5/8	7 7/8	170	34 1/2	1 3/4	4 1/2	9	35 1/4	3 7/8	1 1/4	9	360.00	420.00
32-DD	5 1/8	8 1/4	240	38 1/2	2 1/4	5 1/2	10	39 3/8	4 1/2	1 1/4	10	470.00	550.00
36-DD	5 5/8	8 7/8	300	43 1/2	2 1/8	5 1/2	11	44 1/8	5	1 1/2	11	580.00	680.00
42-DD	6 1/16	9 3/8	360	49 1/2	1 1/8	6	12	45 5/8	5	1 1/2	12	785.00	920.00
48-DD	6 5/8	9 7/8	480	56 1/2	2 1/8	6	12	49 1/8	6	1 3/4	12	1040.00	1220.00

*D for split cut-off couplings same as split clutches, page 75.

List prices include shifting yoke and fulcrum (Fig. T-393), page 83.

†Part T.T. or hub of split clutch is regularly made solid.

Solid clutch cut-off couplings will be furnished, unless split are specified.

Maximum speeds at which standard clutches will operate satisfactorily and extra charges for higher speeds, given on page 70.

An additional charge of 10 per cent is made for cut-off couplings when furnished reducing for shafts of different diameters.

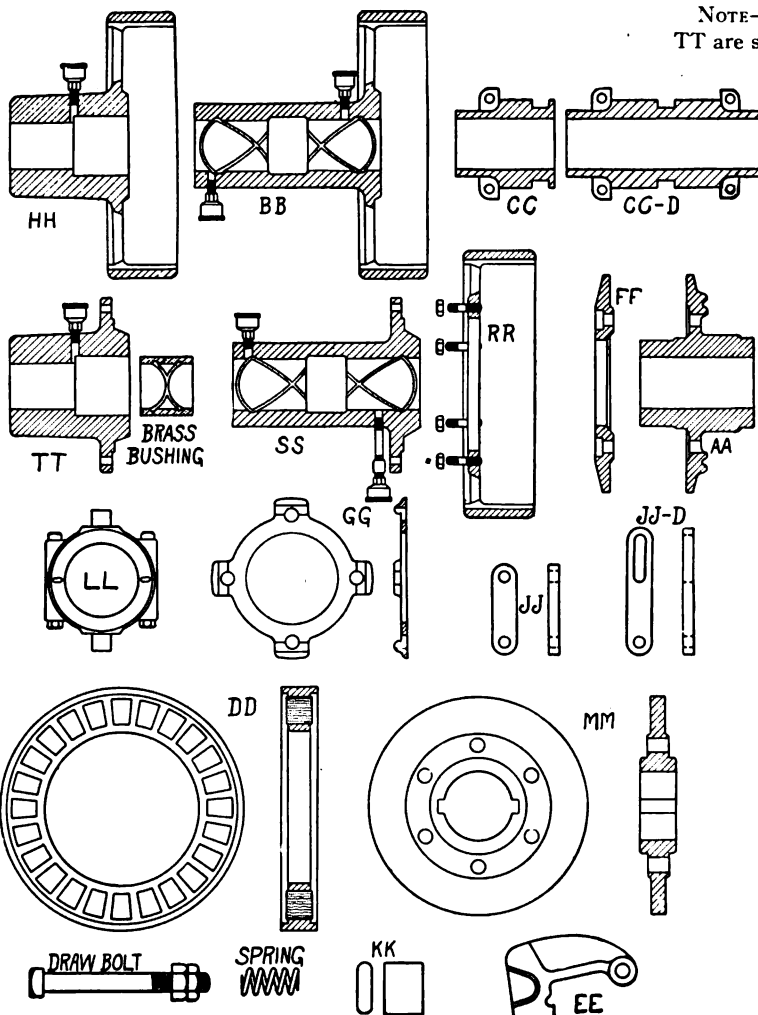
Clutch Numbers	Single Disc			Double Disc:		
	Size of Keyseat, Inches		Size of Key, Inches	Size of Keyseat, Inches		Size of Key, Inches
	In Out- side of Sleeve	In Pulley		In Out- side of Sleeve	In Pulley	
5	Set screws only					
6	Set screws only					
7	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{4}$			
8	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{4}$			
9	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{4}$			
10	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{16}$			
11	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{16}$			
12	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{16}$			
14	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{32}$	$\frac{5}{8} \times \frac{5}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{8}$
16	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{8}$
18	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{8}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{16}$
20	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{16}$	$\frac{3}{4} \times \frac{3}{8}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{16}$
22	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{16}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{2}$
24	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{32}$	$\frac{7}{8} \times \frac{1}{16}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{2}$
28	$1 \times \frac{1}{4}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{2}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{8}$
32	$1 \times \frac{1}{4}$	$1 \times \frac{1}{4}$	$1 \times \frac{1}{2}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{8}$
36	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{8}$			
42	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{16}$	$1 \frac{1}{4} \times \frac{5}{8}$			
48	$1 \frac{1}{2} \times \frac{3}{8}$	$1 \frac{1}{2} \times \frac{3}{8}$	$1 \frac{1}{2} \times \frac{3}{4}$			

Universal Giant Friction Clutches

Key and Keyseat Dimensions, Parts BB and SS for Single and Double Disc Clutches Both Solid and Split.

Pulleys, sheaves, sprockets or other mechanisms to be fitted to sleeves of Universal Giant friction clutches must be keyseated according to dimensions in third and sixth columns and keys must be used of dimensions given in fourth and seventh columns and of length to suit hub of pulley. Keyseats should be cut straight with set screws over.

NOTE—Keyseats in bore of parts AA, HH and TT are standard for bore, as per table, page 6.



Parts for Universal Giant Friction Clutches

- AA Body
- BB Cover with Sleeve
- CC Thrust Spool
- CC-D Duplex Thrust Spool
- DD Disc
- EE Locking Lever
- FF Follower Plate
- GG Fulcrum Ring
- HH Coupling Cover with Hub
- JJ Link
- JJ-D Duplex Link
- KK Loose Link
- LL Thrust Collar
- MM Intermediate Plate for Double Disc
- RR Cover for Clutch or Coupling
- SS Sleeve for Clutch
- TT Hub for Coupling

When ordering parts state plainly the letter or symbol representing the part required as marked on this page; also state number of clutch and diameter of shaft on which it is operating.



Universal Giant Friction Clutch Parts

Price List of One Clutch Part for Solid, Single and Double Disc Clutches

Name of Part	All Standard Bores					No. 10		No. 11	No. 12	
	No. 5	No. 6	No. 7	No. 8	No. 9	Up to 2 1/2-inch Bore	Above 2 1/2-inch Bore	Stand-ard Bores	Up to 2 1/2-inch Bore	Above 2 1/2-inch Bore
AA Body.....	\$2.75	\$3.00	\$4.00	\$4.50	\$6.00	\$6.75	\$8.00	\$9.75	\$9.00	\$10.00
BB Cover with sleeve...	6.50	7.50	9.75	10.25	13.50	14.00	15.50	17.00	17.00	19.50
CC Spool.....	1.00	1.25	1.75	1.50	2.00	2.50	2.50	3.25	3.25	3.25
CC-D Duplex spool.....	2.00	2.50	3.50	3.00	4.00	5.00	5.00	6.50	6.50	6.50
DD Disc with wood blocks	2.75	3.00	3.50	4.00	4.75	6.00	6.00	6.50	8.00	8.00
Extra set blocks.....	Discs up to No. 9 fitted with cork					1.25	1.25	1.25	1.50	1.50
EE Lever.....	.30	.40	.40	.50	.50	.60	.60	.60	.75	.75
FF Fulcrum plate.....	1.00	1.25	1.50	2.00	2.50	3.00	3.00	3.75	5.00	5.00
GG Fulcrum ring.....	1.40	1.50	1.65	1.80	2.00	2.25	2.25	2.50	2.65	2.65
HH Cover.....	Same as BB + Bushing					Price up to and including No. 12				
JJ Link.....	.15	.20	.20	.20	.20	.25	.25	.30	.30	.30
JJ-D Duplex Link.....	.30	.40	.40	.40	.40	.50	.50	.60	.60	.60
KK Loose link.....	.10	.15	.15	.20	.20	.25	.25	.25	.25	.25
LL Collar.....	.80	.90	1.00	1.00	1.40	1.40	1.40	1.75	1.75	1.75
RR Cover solid.....	To and including No. 12 bore 2 1/2 inch use BB					10.50	10.50	11.00	13.00	13.00
RR Cover split.....			7.00	7.50	8.50	10.50	10.50	11.00	13.00	13.00
Spring.....	.20	.20	.20	.25	.25	.30	.30	.30	.30	.30
Draw Bolt.....	.15	.20	.20	.25	.25	.30	.30	.30	.30	.30
Yoke.....	2.00	2.00	2.25	2.50	2.75	2.75	2.75	4.00	4.00	4.00
Fulcrum.....	.75	.75	.75	1.00	1.00	1.00	1.00	1.25	1.25	1.25
Wrench.....	.20	.25	.25	.30	.30	.35	.35	.35	.35	.35
*MM Intermediate plate...									10.00	10.00
*AA Body.....									13.50	15.00
*RR Cover.....									15.00	15.00
*Draw bolt.....									.45	.45
*TT Hub.....									13.50	15.00

Name of Part	All Standard Bores										
	No. 14	No. 16	No. 18	No. 20	No. 22	No. 24	No. 28	No. 32	No. 36	No. 42	No. 48
AA Body.....	\$13.00	\$16.00	\$20.00	\$25.00	\$31.00	\$41.00	\$51.00	\$70.00	\$83.00	\$125.00	\$205.00
CC Spool.....	4.25	5.50	6.50	8.00	8.00	10.00	12.50	12.50	16.00	24.00	40.00
CC-D Duplex spool.....	8.50	11.00	13.00	16.00	16.00	20.00	25.00	25.00	32.00	48.00	80.00
DD Disc with wood blocks	9.00	10.50	15.00	18.00	23.50	28.00	32.00	38.00	50.00	75.00	125.00
Extra set wood blocks.....	1.75	2.00	2.25	2.50	3.00	4.50	6.00	7.00	8.00	12.00	20.00
EE Lever.....	.75	1.00	1.00	1.00	1.00	1.00	1.75	1.75	2.50	3.75	6.25
FF Fulcrum plate.....	7.00	8.50	11.00	14.00	16.00	19.00	23.00	37.00	46.00	69.00	115.00
GG Fulcrum ring.....	2.75	3.80	4.40	5.50	7.25	9.10	11.00	14.00	18.25	27.50	46.00
JJ Link.....	.30	.35	.40	.45	.45	.50	.60	.60	.75	1.20	2.00
JJ-D Duplex link.....	.60	.70	.80	.90	.90	1.00	1.20	1.20	1.50	2.25	3.75
KK Loose link.....	.25	.30	.30	.30	.30	.30	.35	.35	.40	.60	1.00
LL Collar.....	2.00	2.50	3.25	4.50	4.50	6.00	7.50	7.50	9.00	13.50	22.50
RR Solid cover.....	12.00	16.00	20.00	28.00	37.00	44.00	52.00	62.00	92.00	138.00	230.00
RR Split cover.....	15.00	20.00	25.00	35.00	46.25	55.00	65.00	77.50	115.00	172.50	286.00
SS Sleeve.....	Deduct list of clutch without sleeves from clutch with sleeve										
TT Hub.....	8.50	15.00	21.00	25.00	30.00	30.00	40.00	45.00	50.00	75.00	100.00
Spring.....	.30	.35	.35	.35	.35	.40	.45	.45	.50	.75	1.25
Draw bolt.....	.30	.35	.35	.35	.35	.40	.60	1.25	1.50	2.25	3.75
Yoke.....	4.00	5.25	6.25	7.50	7.50	9.75	11.25	11.25	13.50	20.00	33.00
Fulcrum.....	1.25	1.25	1.25	1.25	1.25	1.50	1.75	1.75	1.75	2.60	4.25
Wrench.....	.35	.40	.40	.40	.40	.40	.50	.50	.50	.75	1.25
*MM Intermediate plate...	14.00	17.00	22.00	28.00	32.00	38.00	46.00	74.00	92.00	138.00	230.00
*AA Body.....	19.50	24.00	30.00	37.50	46.50	61.50	76.50	105.00	125.00	185.00	305.00
*RR Cover.....	18.00	24.00	30.00	42.00	55.50	66.00	78.00	93.00	138.00	205.00	342.00
*Draw bolt.....	.45	.50	.50	.60	.60	.60	.90	1.75	2.25	3.00	5.00
*TT Hub.....	15.00	25.00	35.00	40.00	45.00	50.00	60.00	70.00	80.00	110.00	140.00

*Parts for double disc clutches only.

To obtain list prices of split parts necessary for split clutches, add 25 per cent to list prices of solid parts.

For making parts T. T. split, special net prices will be charged.

Universal Giant Friction Clutches

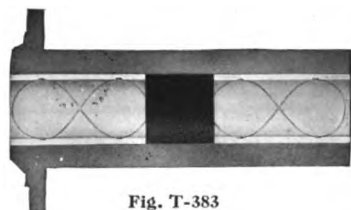


Fig. T-383

Bushings

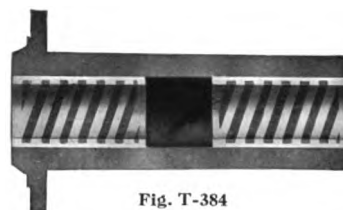


Fig. T-384

The prices given in the following table cover phosphor-bronze and bronze graphite bushings fitted in sleeves of Universal Giant friction clutches.

Phosphor-bronze bushings (Fig. T-383) are constructed of high grade metal and are equipped with patent continuous spiral oil grooves. In cutting the groove the machine is set to allow the loop to cut out at inside end of each bushing. These open ends will draw the oil into the groove no matter in which direction the sleeve is running.

Patent bronze graphite bushings (Fig. T-384) are constructed of high grade phosphor bronze. On the bearing surface that comes in contact with the shaft, symmetrical grooves are cast. By means of hydraulic pressure these grooves are packed solid with an especially fine and hard lubricating graphite. They require a small quantity of oil when started after which they become practically self-lubricating.

Prices quoted include a pair (2 complete bushings) required for each clutch sleeve. Single bushings will be furnished at one-half of these list prices.

These bushings are also suited for use with loose pulleys, sheaves, etc. Split bushings will be furnished at list prices 25 per cent greater than for solid bushings.

To determine proper length of bushings for use in sleeves of Universal Giant friction clutches Nos. 5 to 12 inclusive, use the following table:

Number of clutch.....	5	6	7	8	9	10	11	12
Length of each bushing in Inches.....	2¼	2¾	2¾	3¼	3¼	4¼	4¼	5¼

Length of bushings for clutches No. 14 and larger is determined by face width of pulley to be used on clutch sleeve. The following table gives the proper length of bushing to be used for sleeves of clutches No. 14 and larger.

Nominal face of pulley in Inches....	6	8	10	12	14	16	18	20	22	24
Length of each bushing in Inches..	3¼	4¼	5¼	6¼	7¼	8¼	9¼	10¼	11¼	12¼

Price List of Phosphor-Bronze Bushings

Price per Pair, Fitted in Clutch Sleeve, Hub of Pulley, or Sheave

Shaft Sizes, Inches	Outside Diam. of Bushings, Inches	Length of Bushings in Inches											
		2¼	2¾	3¼	4¼	5¼	6¼	7¼	8¼	9¼	10¼	11¼	12¼
1 3⁄16	1 1⁄2	\$ 7.80	\$ 8.50	\$ 9.30	\$10.20	\$11.50							
1 7⁄16	1 11⁄16	8.50	9.40	10.20	11.10	12.40							
1 11⁄16	2 1⁄16	8.90	9.80	10.60	12.00	13.30							
1 13⁄16	2 1⁄8	9.20	10.40	11.00	12.50	13.90	\$15.70	\$17.10	\$18.50	\$20.10	\$21.20		
2 3⁄16	2 11⁄16	9.50	10.60	11.50	13.80	15.20	17.00	18.30	19.70	21.20	22.60		
2 7⁄16	2 13⁄16	10.00	10.90	12.20	14.00	15.50	17.50	18.60	20.10	21.50	23.10		
2 11⁄16	3 3⁄16	10.20	11.40	12.70	14.60	15.90	18.00	19.60	20.90	22.60	24.40		
2 15⁄16	3 7⁄16	10.60	11.90	13.00	15.00	16.70	18.60	20.40	22.30	23.80	25.70		
3 3⁄16	3 11⁄16			13.60	15.60	17.50	19.20	21.20	23.20	24.90	26.70		
3 7⁄16	3 13⁄16			14.00	16.00	18.00	20.20	22.20	24.20	26.20	28.20		
3 11⁄16	4 3⁄16			14.50	16.60	19.20	21.20	23.60	25.60	27.50	29.70		
3 15⁄16	4 7⁄16			15.00	17.40	19.60	22.20	24.50	26.60	28.80	31.20		
4 3⁄16	4 11⁄16			17.20	20.30	23.40	26.50	29.50	32.30	35.20	38.00		
4 7⁄16	5 3⁄16			18.20	21.40	24.50	27.70	30.80	34.00	37.00	40.00	\$43.50	\$48.00
4 11⁄16	5 7⁄16			19.00	22.40	25.70	28.90	32.50	35.80	38.90	41.90	45.50	50.00
4 15⁄16	5 11⁄16			19.40	23.20	26.60	29.90	33.50	37.30	40.60	43.60	48.00	53.00
5 3⁄16	6 3⁄16			20.50	24.20	27.90	31.60	35.70	39.30	42.60	46.60	51.00	56.00
5 7⁄16	6 11⁄16			22.30	26.50	30.20	34.00	38.40	42.00	46.60	50.60	55.00	60.00

Price List of Patent Bronze Graphite Bushings

Price per Pair, Fitted in Clutch Sleeve, Hub of Pulley, or Sheave

Shaft Sizes, Inches	Outside Diam. of Bushings, Inches	\$ 9.00	\$10.20	\$11.30	\$13.30	\$15.50							
1 3/16	1 11/16	10.05	11.30	12.40	14.30	16.60							
1 7/16	2 1/16	11.50	12.40	13.50	15.40	17.70							
1 11/16	2 1/8	13.25	14.30	15.30	17.40	19.50	\$22.60	\$25.00	\$27.50				
2 3/16	2 3/4	15.10	16.30	17.40	19.20	21.30	24.40	27.20	29.80	\$33.00	\$35.80		
2 7/16	2 11/16	17.00	18.10	19.20	21.00	23.10	26.00	29.90	32.40	34.60	38.60	\$43.00	
2 11/16	3 1/16	20.70	22.10	23.50	26.30	29.70	35.00	37.70	41.00	44.80	49.90	55.50	
2 15/16	3 1/8	21.75	23.10	24.50	27.40	31.00	36.10	40.40	44.20	47.60	52.80	60.40	\$67.60
3 3/16	3 3/4			26.20	29.40	33.00	38.40	42.60	47.00	51.00	56.40	64.00	71.50
3 7/16	4 1/16			28.30	30.70	35.00	40.60	44.90	50.20	54.70	60.30	67.50	76.00
3 11/16	4 1/8			28.80	32.70	36.30	42.80	48.10	53.40	58.90	64.50	71.40	80.80
3 15/16	4 3/4			31.40	35.30	39.60	45.30	51.50	57.70	62.80	69.70	76.90	85.20

For larger bushings, prices will be quoted upon application.

Shifters for Universal Giant Friction Clutches

Compound Lever Shifter Stand

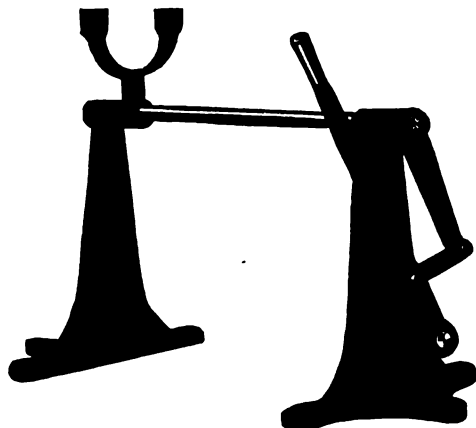


Fig. T-390

Price List

For Use with Clutches Numbers	Height from Base to Center of Shaft, Inches		
	24	30	36
16-18-20-22	\$32.00	\$39.50	\$47.00
24-28-32	35.00	42.50	50.00
36-42-48	40.00	47.50	55.00

Worm Geared Shifter Stand

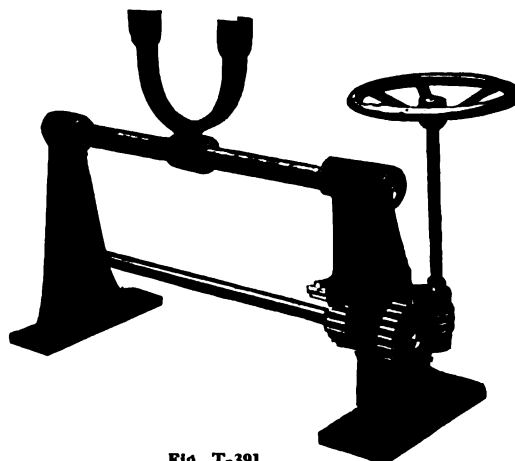


Fig. T-391

Price List

For Use with Clutches Numbers	Height from Base to Center of Shaft, Inches		
	24	30	36
24-28-32	\$60.00	\$70.00	\$80.00
36-42-48	67.50	80.00	90.00

Fork and Lever Stand

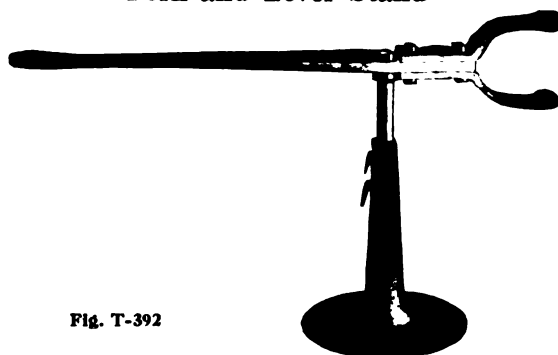


Fig. T-392

List Prices

For Use with Clutches Numbers	Height from Base to Center of Shaft, Inches		
	24	30	36
10-12-14	\$10.00	\$11.50	\$13.00
16-18-20-22	12.00	14.00	16.00
24-28-32	14.00	16.50	19.00
36-42-48	17.50	21.00	24.50

Yoke and Fulcrum for Lever



Fig. T-393

A yoke and end fulcrum for lever (Fig. T-393) are included in the list price of each Universal Giant friction clutch and cut-off coupling.

Straight levers are readily secured by simply piecing out with flat iron to the required length.

In erecting place swell on yoke next to clutch mechanism.

For list prices see page 81.

Premier Friction Clutch Pulleys

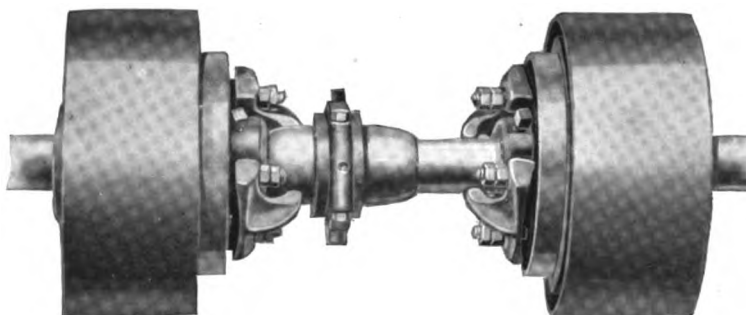


Fig. T-394

Pulleys are fitted with clutches of the floating disc type, made solid only. They are simple in construction, composed of few parts and are particularly adaptable for countershaft service. This type of clutch can be depended upon to gradually take up load and release instantly. When released, there is no tendency of friction surfaces to drag.

Price List of One Complete Clutch Pulley, Plain Bore Fitted with Grease Cup

(Price of duplex or double clutch pulleys twice that of single.)

Pulley Diameter, Inches	SINGLE BELT						DOUBLE BELT					
	Nominal Face Width in Inches						Nominal Face Width in Inches					
	3	4	5	6	7	8	3	4	5	6	7	8
9	\$21.55	\$21.90	\$22.65	\$23.10			\$21.85	\$22.30				
10	21.85	22.25	23.10	28.55			22.20	27.70	\$28.60			
11	22.05	22.50	28.35	28.85			27.45	28.00	28.95			
12	22.35	27.80	28.70	29.25			27.70	28.30	29.30			
13	27.65	28.10	29.05	37.65	\$38.80	\$39.45	27.95	28.60	37.65	\$38.35		
14	27.80	28.30	37.25	37.90	39.15	39.90	28.25	36.95	38.10	38.85		
15	28.10	28.60	37.80	38.25	39.55	40.40	36.55	37.30	38.50	48.30	\$49.70	\$50.55
16	28.70	37.25	38.25	38.95	40.30	50.20	37.15	37.85	48.05	48.90	50.50	51.20
17	36.95	37.55	38.70	39.45	49.85	50.75	37.45	47.30	48.55	49.45	50.90	51.85
18	37.25	37.90	39.05	39.85	50.30	51.30	37.75	47.70	49.05	50.00	51.55	
19	37.50	38.30	39.50	49.35	50.85	51.85		48.10	49.55	50.60		
20	37.80	38.70	40.00	49.95	51.45	52.45		48.50	50.00			
21	38.20	39.15	50.05	51.05	52.00	53.00		49.00				
22	38.50	39.55	50.50	51.55	53.15	54.15		49.45				
23	38.85	39.95	50.95	52.05	53.70	54.75		49.90				
24	39.20	40.35	51.40	52.55	54.25	55.40						

If shifting yoke and fulcrum (Fig. T-393) are required for a single clutch pulley, add \$3.00 to above list price.

If shifting yoke and fulcrum (Fig. T-393) are required for a duplex clutch pulley, add \$3.00 to list price of two clutch pulleys.

If duplex clutch pulleys are to be used on countershafts with rod shifter, a shifter dog for operating thrust spool will be furnished without charge.

List prices of clutch pulleys fitted with bronze bushings will be furnished upon application.

Premier Friction Clutch Pulleys

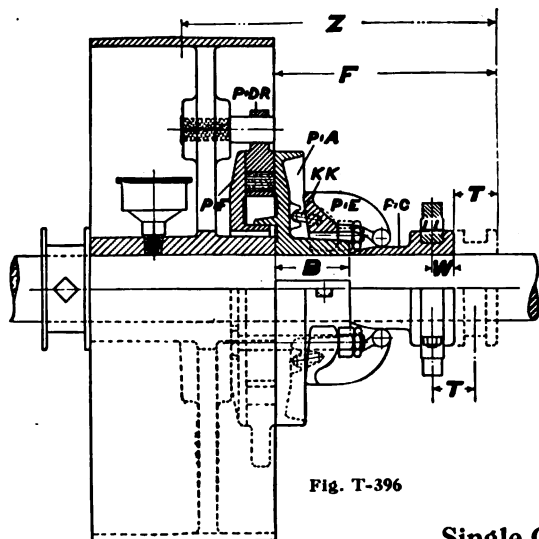


Fig. T-396

Symbol of Clutches Fitted to Pulleys

Pulley Diameter, Inches	SINGLE BELT					
	Nominal Pulley Face in Inches					
	3	4	5	6	7	8
9	5P	5P	5P	5P		
10	5P	5P	5P	7P		
11	5P	5P	7P	7P		
12	5P	7P	7P	7P		
13	7P	7P	7P	9P	9P	9P
14	7P	7P	9P	9P	9P	9P
15	7P	7P	9P	9P	9P	9P
16	7P	9P	9P	9P	9P	11P
17	9P	9P	9P	9P	11P	11P
18	9P	9P	9P	9P	11P	11P
19	9P	9P	9P	11P	11P	11P
20	9P	9P	9P	11P	11P	11P
21	9P	9P	11P	11P	11P	11P
22	9P	9P	11P	11P	11P	11P
23	9P	9P	11P	11P	11P	11P
24	9P	9P	11P	11P	11P	11P

Single Clutch Pulleys

Clutch Numbers	Horse Power at 100 R.P.M.	Maximum Bore, Inches	Dimensions in Inches				Z—Nominal Face Width in Inches						Smallest Pulley	
			B	F	T	W	3	4	5	6	7	8	Diam.	Face
5P	2	1½	1 11/16	5 9/16	1 1/16	1 3/4	7 3/16	7 11/16	8 3/16	8 11/16	9 3/16	10 7/16	9	2 1/2
7P	3 1/2	2	2 1/16	6 5/16	1 3/16	3/4	7 15/16	8 7/16	8 15/16	9 7/16	9 15/16	10 7/16	10	2 3/4
9P	6	2 1/4	2 1/2	7 3/8	1 7/16	3/4	9	9 1/2	10	10 1/2	11	11 1/2	12 1/2	3
11P	10	2 1/2	2 3/4	8 3/8	1 11/16	7/8	10	10 1/2	11	11 1/2	12	12 1/2	14 1/2	3 3/4

Total Shaft Space = $F + \frac{1}{4}$ inch + Nominal Face width + width of collar for faces 4 inches and over.
 Total Shaft Space = $F + 4\frac{1}{4}$ inches + width of collar for faces 4 inches and under.
 Actual Face = Nominal Face + $\frac{1}{4}$ inch. For width of collars, see page 8.

Symbol of Clutches Fitted to Pulleys

Pulley Diameter, Inches	DOUBLE BELT					
	Nominal Pulley Face in Inches					
	3	4	5	6	7	8
9	5P	5P				
10	5P	7P	7P			
11	7P	7P	7P			
12	7P	7P	7P			
13	7P	7P	9P	9P		
14	7P	9P	9P	9P		
15	9P	9P	9P	11P	11P	11P
16	9P	9P	11P	11P	11P	11P
17	9P	11P	11P	11P	11P	11P
18	9P	11P	11P	11P	11P	11P
19		11P	11P	11P		
20		11P	11P			
21		11P				
22		11P				
23		11P				
24						

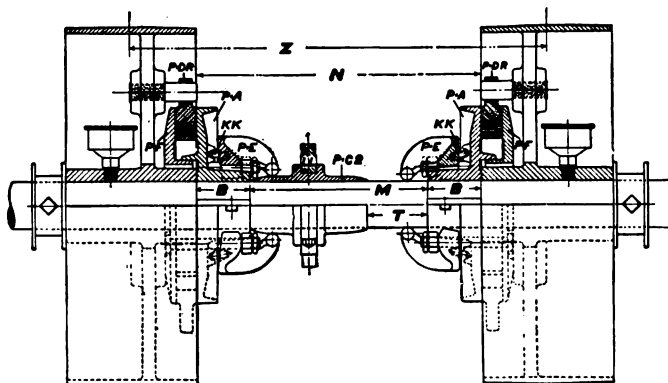


Fig. T-396

Duplex or Double Clutch Pulleys

Clutch Numbers	Horse Power at 100 R.P.M.	Maximum Bore	Dimensions in Inches				Z—Nominal Face Width in Inches						Smallest Pulley	
			B	M	N	T	3	4	5	6	7	8	Diameter, Inches	Face, Inches
5P	2	1½	1 11/16	6 1/2	9 7/8	2 1/8	13 1/8	14 1/8	15 1/8	16 1/8			9	2 1/2
7P	3 1/2	2	2 1/16	7 1/4	11 3/8	2 1/2	14 5/8	15 5/8	16 5/8	17 5/8	18 3/8	19 5/8	10	2 3/4
9P	6	2 1/4	2 1/2	8 1/2	13 1/2	3	16 3/4	17 3/4	18 3/4	19 3/4	20 3/4	21 3/4	12 1/2	3
11P	10	2 1/2	2 3/4	10	15 1/2	3 1/2	18 3/4	19 3/4	20 3/4	21 3/4	22 3/4	23 3/4	14 1/2	3 3/4

Total Shaft Space = $Z + \frac{1}{4}$ inch + Nominal face width + width of collars for faces 4 inches and over.
 Total Shaft Space = $N + 8\frac{1}{2}$ inches + width of collars for faces 4 inches and under.
 Actual Face = Nominal face + $\frac{1}{4}$ inch. For widths of collars, see page 8.

Rope Transmission

The transmission of power by rope has many advantages:



Fig. T-397

1. The amount of power and distance over which it can be transmitted is practically unlimited.
2. Power may be transmitted on centers so short that there is only sufficient space for sheaves to clear each other.
3. Ropes can be run in any direction, horizontally, vertically, or both; at any angle, or around corners.
4. Economy of space is obtained, as the rim width of sheaves requires only from one-half to two-thirds of that necessary for belting, varying with the size of rope.
5. The speed of rotation is practically uniform.
6. Rope transmission is free from electrical disturbances.
7. It is not necessary that driving and driven shafts be parallel or in the same plane.
8. The transmission of power by rope is positive, noiseless and steady in operation.
9. It possesses high efficiency and long life.
10. Future requirements may be provided by making original sheaves with extra grooves.
11. Power can be distributed from the same driving sheave to several driven sheaves.
12. It is economical in initial cost and maintenance.

There are two systems of transmitting power by ropes—the English or Multiple System and the American or Continuous System.

English or Multiple System

The English or Multiple System makes use of a single rope for each groove in the sheave. It is primarily suitable for large powers in direct drives that are protected from the weather.

The principal advantage claimed for this system is security against a break-down, it being very unlikely that more than one rope will fail at the same time, in which case it may be removed, allowing the other ropes to take the added strain until it is convenient to make the repair.

In considering the installation of this system, the multiplicity of splices and the difference in the tension of the several ropes must not be overlooked. Also the variation of pitch diameters caused by the possible use of new and old ropes on the same drive, and the loss of effective working tension in the ropes due to centrifugal force.

The shafts should be practically parallel and a sufficient distance between centers so that weight of rope, together with angle of groove and arc of contact will give necessary effective working tension in rope to transmit the required power.

In ordinary practice, with this system, best results are obtained when distance between shaft centers is 50 to 100 feet.

American or Continuous System

The American or Continuous System is perfectly flexible and adaptable for the transmission of power and can be used in many cases where no other mechanical method is applicable.

With this system one rope is used for the entire drive, wound around the driving and driven sheaves, passing from the grooves in one to corresponding grooves in the other. The ends of rope are brought together in the same plane for splicing by passing one end from the outside groove of

Rope Transmission—Continued

driving sheave around an extra groove or winder sheave, thence to and around a tension sheave which is set at proper angle so that rope can be returned to opposite outside groove of driven sheave, or one end may be passed directly from the driving sheave to the tension sheave and returned to the driven sheave by passing around a winder sheave suitably located. The tension sheave should always receive the rope from the driving sheave in the slack or non-working side of the drive and return it to the driven sheave in the slack or non-working side of the drive. The tension sheave also serves the purpose of distributing and maintaining proper tension in ropes under varying conditions of load, atmospheric changes, etc.

Installations of this system will handle small or large loads successfully, and work equally well on long or short centers, horizontally or vertically, and with shafts either parallel or at an angle. Thus, power can be transmitted in any direction or at an angle, over and around obstructions, and for reverse motion. This system is particularly satisfactory for out-door drives

and in many cases is preferable to the use of gears.

A rope drive to operate satisfactorily must be of proper design and properly installed, as every detail has its effect on the efficiency of the drive.

It is, therefore, advisable that the plans be prepared by one experienced in this particular branch of power transmission.

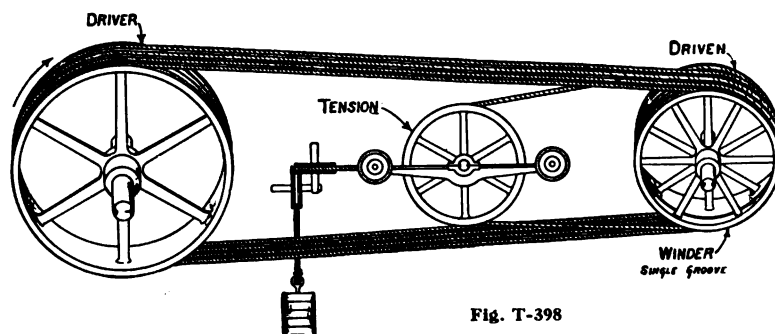


Fig. T-398

Our engineers, who have had many years' experience in rope driving, may be called upon at any time for consultation and advice.

Information as covered in the following is necessary when we are required to quote prices on a complete installation:

1. Horsepower to be transmitted.
2. Nature of load, whether steady or intermittent. If latter, what are normal operating and peak loads?
3. Class of machinery to be operated.
4. Source of power—steam engine, gas engine, water wheel or electric motor.
5. If gas engine, state the type, cycle and number of cylinders.
6. State if driving wheel is on prime mover, and if so, give size, description and rated capacity.
7. Revolutions per minute of driving and driven shafts.
8. Direction of rotation of driving and driven shafts.
9. Diameter of driving shaft.
10. Diameter of driven shaft or shafts. (If the latter, give size of each).
11. Are driving and driven shafts parallel? If not, supply sketch and give necessary dimensions to determine angularity.
12. Are shafts on the same level? If not, supply sketch with dimensions giving vertical and horizontal distances between centers and designate which is driver and which is driven.
13. Are either or both shafts horizontal or vertical? If one is vertical and the other horizontal, state which is driver and which is driven.
14. Give distance between centers of driving and driven shafts.
15. What is the largest wheel diameter and width permissible on each shaft? (It is not advisable to use sheaves less than 36 to 40 diameters of rope).
16. How close may bearings be placed to center line of drive on both driving and driven shafts?
17. May ropes run straight across from driving to driven shafts or must they run under or around obstructions?
18. Will rope be exposed to the weather or excessive heat? If so, give full information.
19. Where is most convenient place for tension carriage and track?
20. If possible, send sketch showing general requirements.



Rope Transmission

Horse Power Ratings

For horse power capacity of manila transmission rope, when operating under favorable conditions on American or English System Drives, the ratings given in the following table may be used. They are based on a first quality rope of high tensile strength, with sheaves of suitable diameters properly arranged. Care must be exercised in their use as familiarity with operating conditions are necessary to definitely determine horse power that a drive will transmit.

Ordinarily, sheave diameters should not be less than 40 times the diameter of rope, although under slow speed conditions slightly smaller diameters may be used and under high speed conditions slightly larger diameters may be necessary.

Horse Power of One Rope Based on an Arc of Contact of 180 Degrees

Diameter of Rope, Inches	ENGLISH SYSTEM										AMERICAN SYSTEM									
	Rope Speed in Feet per Minute										Rope Speed in Feet per Minute									
	1000	1500	2000	2500	3000	3500	4000	4500	5000	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
1	¾	2.3	3.3	4.3	5.2	6.0	6.6	7.2	7.3	7.4	1.5	3.0	4.5	5.8	7.1	8.1	9.0	9.7	10.2	10.4
		3.0	4.5	5.9	7.0	8.2	9.0	9.6	9.8	10.0	2.1	4.1	6.1	8.0	9.7	11.3	12.6	13.7	14.5	15.1
1	⅞	4.0	5.9	7.7	9.2	10.6	11.8	12.7	12.9	13.0	2.7	5.4	8.0	10.5	12.8	14.9	16.8	18.4	19.7	20.6
		5.0	7.5	9.7	11.6	13.5	14.9	16.0	16.3	16.7	3.4	6.8	10.2	13.3	16.3	19.1	21.6	23.8	25.6	27.0
1	1¼	6.3	9.1	12.0	14.3	16.7	18.5	20.0	20.2	20.7	4.3	8.5	12.6	16.5	20.3	23.8	27.0	29.8	32.3	34.3
		7.5	10.8	14.4	17.4	20.0	22.1	23.7	24.5	24.6	5.2	10.2	15.2	20.0	24.6	29.0	33.0	36.6	39.7	42.4
1	1½	9.0	13.5	17.4	20.7	23.0	26.3	28.7	29.0	29.5	6.1	12.2	18.1	23.9	29.4	34.6	39.5	43.9	47.9	51.3
		12.3	18.0	23.6	28.2	32.7	36.4	38.5	39.4	40.5	8.3	16.6	24.7	32.7	40.3	47.6	54.5	60.8	66.7	71.9
2		16.0	23.2	30.6	36.8	42.5	46.7	50.0	51.7	52.8	10.9	21.7	32.4	42.8	52.9	62.6	71.8	80.4	88.5	95.7

Rope speed in feet per minute = .2618 D N

D = Pitch diameter of sheave in inches.

N = Revolutions of sheave per minute.

With an arc of contact differing from 180 degrees, the ratings in table should be multiplied by the following factors:

Arc of contact (degs.)	90	100	110	120	130	140	150	160	170	180	190	200	210
Factor	0.65	0.70	0.75	0.79	0.83	0.87	0.91	0.94	0.97	1.00	1.03	1.05	1.07

Sag of Rope

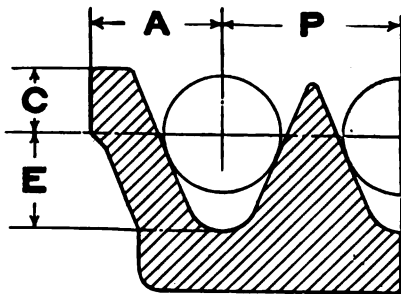
It is impossible to give a formula for sag of rope applicable to all cases, as it differs not only with the distance between centers of sheaves and speed of rope, but with the relative location of sheaves, their difference in elevation and the tension in the rope. The table giving approximate sag may be used as a guide.

Distance between Pulleys, Feet	Sag on Driving Side, All Speeds, Feet	Sag of Slack Side in Feet				
		Rope Speed in Feet per Minute				
		3000	4000	4500	5000	5500
30	.19	.45	.39	.36	.33	.30
40	.34	.80	.69	.64	.59	.53
50	.53	1.2	1.1	1.0	.92	.84
60	.76	1.8	1.7	1.4	1.3	1.2
70	1.0	2.4	2.1	1.9	1.7	1.6
80	1.4	3.2	2.9	2.5	2.3	2.1
90	1.7	4.0	3.5	3.2	3.0	2.7
100	2.1	5.0	4.3	4.0	3.7	3.3
120	3.0	7.2	6.2	5.7	5.3	4.8
140	4.1	9.9	8.5	7.8	7.2	6.6
160	5.4	12.9	11.1	10.2	9.5	8.6

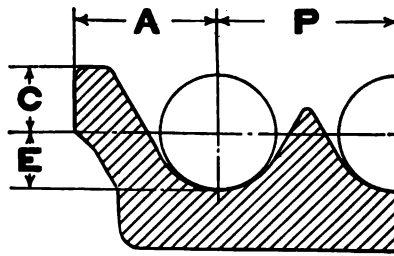
NOTE—It is estimated that total stretch in good manila transmission rope will not exceed five per cent of its length under normal operating conditions.

The amount of stretch in a particular rope drive cannot be calculated definitely as it varies with conditions.

Sheaves for Rope Transmission



45° V Groove. Fig. T-399
American System



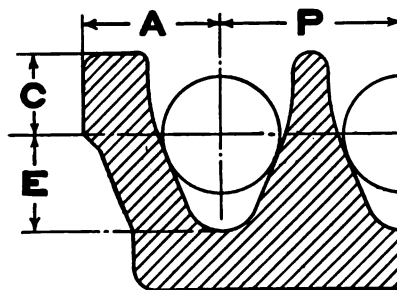
60° U Groove. Fig. T-399A
American System

For the satisfactory working of rope drives, sheaves of proper design, construction and finish are required. The grooves must be carefully finished, of proper form and of the same pitch diameters.

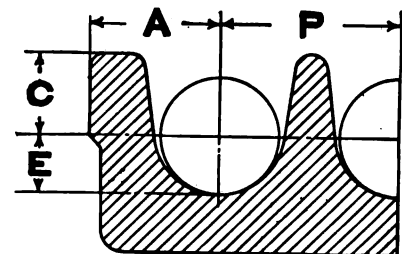
Extensive tests have proved that 45 degrees is the correct angle for grooves in laboring sheaves and this has been adopted as our standard.

For winders and tension sheaves our standard is 60 degree U grooves; for idlers and carriers 60 degree U grooves unless arc of contact is less than 90 degrees, in which case 45 degree V groove is recommended.

Standard grooves, as illustrated, will be furnished unless otherwise specified.



45° V Groove. Fig. T-400
English System



60° U Groove. Fig. T-400-A
English System

Laboring sheaves can be supplied with 60 degree V grooves if required.

Dimensions in Inches

American System Grooves							
Diameter, Rope, Inches	A		P	C		E	
	V Groove	U Groove	V and U Groove	V Groove	U Groove	V Groove	U Groove
3/4	13/16	15/16	1 1/8	7/16	7/16	39/64	3/8
7/8	15/16	1 1/16	1 5/16	1/2	1/2	45/64	7/16
1	1 1/8	1 1/4	1 1/2	9/16	9/16	13/16	1/2
1 1/8	1 1/4	1 3/8	1 11/16	5/8	5/8	29/32	9/16
1 1/4	1 3/8	1 1/2	1 7/8	11/16	11/16	11/64	5/8
1 3/8	1 1/2	1 5/8	2 1/8	3/4	3/4	17/64	11/16
1 1/2	1 5/8	1 13/16	2 1/4	13/16	13/16	17/32	3/4
1 3/4	1 13/16	2	2 1/2	15/16	15/16	113/32	7/8
2	2 1/8	2 3/8	2 3/4	1 1/16	1 1/16	1 5/8	1
English System Grooves							
3/4	15/16	15/16	1 1/4	5/8	5/8	39/64	3/8
7/8	1	1	1 3/8	11/16	11/16	45/64	7/16
1	1 1/8	1 1/8	1 1/2	3/4	3/4	13/16	1/2
1 1/8	1 1/4	1 5/16	1 3/4	13/16	13/16	29/32	9/16
1 1/4	1 1/2	1 3/8	1 7/8	7/8	7/8	11/64	5/8
1 3/8	1 5/8	1 1/2	2 1/8	15/16	15/16	17/64	11/16
1 1/2	1 11/16	1 11/16	2 1/4	1	1	17/32	3/4
1 3/4	1 7/8	1 7/8	2 1/2	1 1/8	1 1/8	113/32	7/8
2	2 1/16	2 1/16	2 3/4	1 1/4	1 1/4	1 5/8	1

Face of Sheave in Inches = (Number of grooves - 1) × P + 2 A.



Rope Transmission

Price List for Solid Sheaves with Standard 45° V or 60° U American System
Grooves for 1/8 and 1 inch Rope

Pitch Diameter, Inches	Number of Grooves								
	1	2	3	4	5	6	7	8	9
20	\$12.50	\$16.90	\$21.20	\$25.80	\$30.40	\$35.10	\$40.00	\$44.90	\$50.00
22	13.60	18.20	22.90	27.80	32.80	37.90	43.20	48.60	54.10
24	14.60	19.70	24.80	30.00	35.40	40.80	46.60	52.30	58.30
26	15.80	21.10	26.60	32.30	37.90	43.80	49.90	55.20	62.60
28	17.00	22.70	28.60	34.60	40.70	46.90	53.40	60.10	66.00
30	18.40	24.50	30.60	37.00	43.60	50.30	57.10	64.10	71.30
32	19.70	26.20	32.90	39.60	46.70	53.80	61.20	68.80	76.60
34	21.10	28.10	35.20	42.40	49.80	57.50	65.30	73.40	80.70
36	22.70	29.90	37.30	45.00	52.80	60.80	69.10	77.60	86.50
38	24.20	31.90	39.80	47.90	56.20	64.70	73.40	82.60	90.60
40	25.90	34.10	42.50	51.10	59.90	68.90	78.20	87.80	97.70
42	27.60	36.20	45.00	54.20	63.60	73.10	82.90	93.10	103.40
44	29.50	38.80	48.10	57.80	67.80	77.90	88.30	99.10	110.20
46	31.40	41.20	51.00	61.20	71.60	82.30	93.20	104.50	116.20
48	33.60	43.80	54.20	64.80	75.70	87.00	98.50	110.40	122.40
50	35.80	46.40	57.50	68.60	80.20	91.90	104.00	116.50	129.40
52	38.30	49.60	61.10	72.80	85.00	97.30	110.00	123.10	136.40
54	40.90	52.80	64.90	77.30	90.00	103.10	116.40	130.20	144.20
56	43.80	56.30	69.00	82.10	95.40	109.10	123.10	137.50	152.50
58	46.80	59.90	73.20	86.90	100.80	115.20	129.80	145.00	160.40
60	50.20	63.80	77.90	92.20	106.80	121.90	137.80	153.10	169.30
62	53.40	67.80	82.40	97.40	112.80	128.60	144.70	161.30	178.20
64	56.90	71.90	87.20	103.00	119.00	135.50	152.30	169.60	180.00
66	60.50	76.30	92.40	109.00	125.90	143.20	160.80	178.90	197.50
68	64.40	81.00	97.90	115.10	132.70	150.80	169.20	188.30	207.60
70	68.60	85.90	103.70	121.70	140.20	159.00	178.30	198.10	218.40
72	73.10	91.20	109.80	128.60	148.10	167.80	186.80	208.70	229.80
74	77.90	96.80	116.20	136.00	156.20	176.90	198.00	219.60	241.70
76	82.80	102.70	122.90	143.50	164.60	186.10	208.20	230.60	253.70
78	88.20	109.00	130.10	151.70	173.60	196.20	219.10	242.60	266.60
80	93.80	115.40	137.60	160.60	183.10	206.60	230.60	255.20	280.20
82	99.70	122.40	145.40	169.00	193.10	217.00	242.50	268.10	294.10
84	106.00	129.60	153.60	178.20	203.30	228.70	254.50	281.40	308.40
86	112.70	137.30	162.40	187.90	214.00	240.60	267.70	295.20	323.60
88	119.60	145.00	171.50	198.20	225.30	253.10	281.40	310.20	339.60
90	127.00	156.10	181.50	208.80	237.10	265.90	295.00	325.00	355.00
92	135.80	168.70	191.20	220.90	250.60	280.60	310.20	341.40	373.10
94	142.95	172.00	201.60	231.60	262.30	293.50	325.30	357.70	390.70
96	151.30	181.70	212.30	243.00	275.00	308.90	341.80	374.40	408.00
98	160.40	191.90	224.80	255.60	289.60	323.00	357.20	392.10	427.70
100	171.00	204.00	236.00	271.00	305.00	340.90	373.80	411.80	447.80
102	180.60	214.80	249.20	283.40	319.80	356.60	394.90	433.40	472.80
104	191.40	226.70	263.40	301.20	340.60	382.20	424.60	467.20	512.70
106	202.60	240.20	279.60	319.00	360.20	402.80	446.70	491.20	536.30
108	212.00	242.60	284.70	327.90	372.00	420.40	468.60	519.00	569.00
110	222.60	266.30	314.40	364.20	415.80	470.20	527.90	586.30	646.20

Extras to be Added to Standard List Prices

Sheaves with grooves for 1 1/8 inch rope...	12 1/2 per cent	Sheaves with grooves for 1 3/4 inch rope...	50 per cent
Sheaves with grooves for 1 1/4 inch rope...	20 per cent	Sheaves with grooves for 2 inch rope...	75 per cent
Sheaves with grooves for 1 3/8 inch rope...	25 per cent	Clamp Hub Solid Rim Sheaves.....	7 1/2 per cent
Sheaves with grooves for 1 1/2 inch rope...	35 per cent	Split Sheaves.....	10 per cent

Sheaves with Grooves for **English System** (Figs. T-400 and T-400A), add 25 per cent in addition to all other extras. Loose sheaves tapped for grease cups, if hub is not over 6 inches long, add same extras as used for 6-inch face loose pulleys, see page 108.



Rope Transmission

Price List for Solid Sheaves with Standard 45° V or 60° U American System
Grooves for 1/8- and 1-inch Rope

Pitch Diameters, Inches	Number of Grooves								
	10	11	12	13	14	15	16	18	20
20	\$55.40	\$60.80	\$66.60	\$72.70	\$79.10				
22	59.90	65.90	72.00	78.60	85.20				
24	64.60	70.90	77.50	84.40	91.60	\$98.80	\$106.00	\$120.40	\$134.80
26	69.20	76.10	83.20	90.60	98.40	106.00	113.60	128.80	144.00
28	74.00	81.40	88.90	96.70	104.90	113.10	121.30	137.70	154.10
30	78.70	86.40	94.30	102.60	111.20	119.80	128.40	145.60	162.80
32	84.70	93.00	101.50	110.70	120.30	129.50	138.70	157.10	175.50
34	90.40	99.10	108.20	117.60	127.30	137.00	146.70	166.10	185.50
36	95.50	104.80	114.40	124.50	135.10	145.30	155.50	175.90	196.30
38	100.10	109.90	120.00	130.70	141.60	152.30	163.00	184.40	205.80
40	107.80	118.20	128.90	140.50	152.10	163.60	175.10	198.10	221.10
42	114.20	125.20	136.60	148.80	161.30	173.60	185.90	210.50	235.10
44	121.60	133.20	145.20	157.80	170.60	183.40	196.20	221.80	247.40
46	128.00	140.30	152.90	166.10	179.70	193.10	206.50	233.30	260.10
48	135.00	147.80	161.00	175.30	190.40	204.70	219.00	247.60	276.20
50	142.40	155.90	169.80	185.20	200.60	215.80	231.00	261.40	291.80
52	150.20	164.40	178.80	194.10	209.80	225.80	241.80	273.80	305.80
54	158.80	173.50	188.80	204.90	222.20	238.90	255.70	289.30	322.90
56	167.40	183.00	198.90	215.40	232.50	250.00	267.50	302.50	337.50
58	176.30	192.50	209.20	226.50	244.90	263.40	281.90	318.90	355.90
60	186.00	202.90	220.50	238.50	257.80	276.10	295.40	334.00	372.60
62	195.60	213.40	231.60	250.70	270.40	290.50	310.60	350.80	391.00
64	205.40	223.90	243.00	264.80	286.20	307.20	328.20	370.20	412.20
66	216.50	235.90	255.80	276.20	297.40	319.40	341.40	385.40	429.40
68	227.40	247.70	268.40	289.60	312.20	334.70	357.20	402.20	447.20
70	239.00	260.20	281.90	303.20	325.40	348.40	371.40	417.40	463.40
72	251.50	273.60	296.20	319.60	342.70	366.20	389.70	436.70	483.70
74	264.20	287.30	310.80	334.60	358.10	382.10	406.10	454.10	502.10
76	277.20	301.20	325.70	350.80	376.60	401.60	426.60	476.60	526.60
78	291.10	316.10	341.60	367.20	393.30	419.30	445.30	497.30	549.30
80	305.80	331.80	358.40	385.50	413.50	440.80	468.30	523.30	578.30
82	320.80	347.90	375.60	403.70	432.10	459.10	488.10	546.10	604.10
84	336.10	364.30	393.10	422.70	453.10	483.10	513.10	573.10	633.10
86	352.30	381.60	411.60	442.30	473.20	495.20	527.20	591.25	655.25
88	369.50	400.10	434.20	463.20	494.90	526.20	558.20	622.25	687.30
90	387.00	419.50	451.00	485.00	518.20	552.30	586.30	654.35	722.40
92	405.50	439.50	472.10	507.25	542.50	578.50	614.55	686.60	758.65
94	421.30	458.50	493.40	529.20	565.70	600.70	636.75	708.80	780.85
96	443.60	479.00	515.20	552.60	590.00	628.10	666.15	742.25	818.35
98	463.80	500.50	538.00	576.20	605.60	645.65	685.65	765.70	845.75
100	486.10	524.30	563.00	602.80	643.30	683.00	723.00	803.00	885.00
102	513.20	555.50	597.40	640.50	685.80	708.00	750.00	834.00	922.00
104	557.20	602.00	647.20	692.70	739.60	723.00	777.00	865.00	959.00
106	580.50	628.00	672.10	715.10	765.80	780.00	804.00	896.00	996.00
108	622.00	674.00	729.80	784.50	837.10	850.00	880.00	928.00	1033.00
110	707.50	768.50	830.70	895.40	960.10	1025.00	1090.15	1150.00	1215.00

Extras to be Added to Standard List Prices

Sheaves with grooves for 1 1/8-inch rope... 12 1/2 per cent.	Sheaves with grooves for 1 3/4-inch rope... 50 per cent.
Sheaves with grooves for 1 1/4-inch rope... 20 per cent.	Sheaves with grooves for 2-inch rope... 75 per cent.
Sheaves with grooves for 1 3/8-inch rope... 25 per cent.	Clamp Hub Solid Rim Sheaves... 7 1/2 per cent.
Sheaves with grooves for 1 1/2-inch rope... 35 per cent.	Split Sheaves... 10 per cent.

Sheaves with Grooves for English System (Fig. T-400 and T-400-A), add 25 per cent in addition to all other extras. Loose sheaves tapped for grease cups, if hub is not over 6 inches long, add same extras as used for 6-inch face loose pulleys, see page 108.

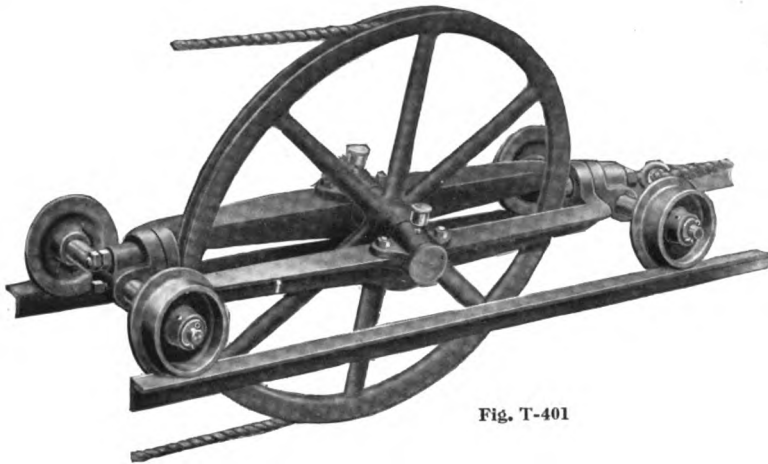


Fig. T-401

Rope Transmission

Horizontal Tension Carriages, Style D

These tension carriages are provided with swivel yokes, which permit the setting of the sheaves to proper inclination.

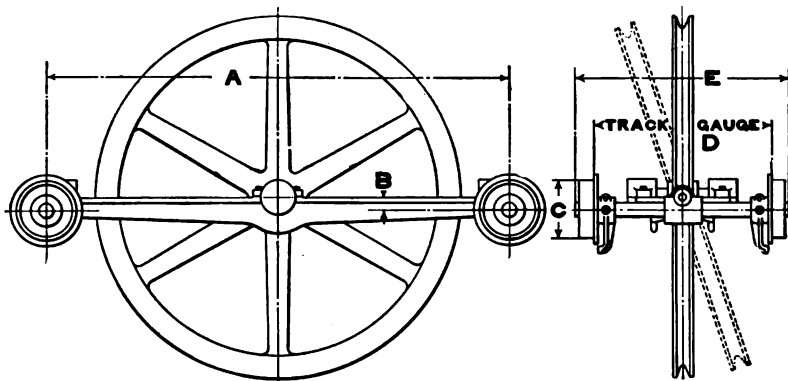
The supporting wheel axles can be varied to accommodate wider tracks or the yokes may be shifted on these axles if the center line of track does not coincide with the center line of drive. When erecting, this feature simplifies properly locating the tension equipment.

Prices include weight rods but not weights, sheaves or track.

To obtain price of tension carriages complete, add price of single groove sheave and price of tension weights.

Price List

Frame Numbers	For Sheave Diameter in Inches	List Prices
30	30 and smaller	\$35.00
36	32 to 36 inclusive	48.00
42	38 " 42 "	54.00
48	44 " 48 "	73.00
54	50 " 54 "	96.00
60	56 " 60 "	125.00
66	62 " 66 "	158.00
72	68 " 72 "	195.00
84	74 " 84 "	235.00
96	86 " 96 "	280.00



Dimensions in Inches

Frame Numbers	A	B	C	Track Gauge D		E Standard	Bore of Sheave	Maximum Hub Length of Sheave	Weight of Carriage without Sheave	Size of Track
				Standard	Minimum					
30	42 $\frac{1}{4}$	1 $\frac{3}{8}$	6	15	13 $\frac{1}{2}$	19 $\frac{1}{2}$	1 $\frac{11}{16}$	5 $\frac{1}{2}$	160	2 x2 x $\frac{1}{4}$ L
36	48 $\frac{1}{4}$	1 $\frac{3}{8}$	6	18	13 $\frac{1}{2}$	22 $\frac{1}{2}$	1 $\frac{11}{16}$	5 $\frac{1}{2}$	180	2 x2 x $\frac{1}{4}$ L
42	55 $\frac{3}{4}$	1 $\frac{3}{4}$	8	21	15	26	2 $\frac{3}{16}$	6	270	2 $\frac{1}{2}$ x2 $\frac{1}{2}$ x $\frac{1}{4}$ L
48	62	1 $\frac{3}{4}$	8	24	15 $\frac{1}{2}$	29	2 $\frac{3}{16}$	6 $\frac{1}{2}$	300	2 $\frac{1}{2}$ x2 $\frac{1}{2}$ x $\frac{1}{4}$ L
54	68	1 $\frac{3}{4}$	8	27	15 $\frac{1}{2}$	32	2 $\frac{3}{16}$	6 $\frac{1}{2}$	330	3-inch I-beam
60	75	1 $\frac{7}{8}$	10	30	17 $\frac{1}{2}$	36	2 $\frac{7}{16}$	7 $\frac{1}{2}$	530	3-inch I-beam
66	81	1 $\frac{7}{8}$	10	33	17 $\frac{1}{2}$	39	2 $\frac{7}{16}$	7 $\frac{1}{2}$	570	4-inch I-beam
72	88	1 $\frac{7}{8}$	10	36	18 $\frac{1}{2}$	42	2 $\frac{7}{16}$	7 $\frac{1}{2}$	640	4-inch I-beam
84	102 $\frac{3}{4}$	2 $\frac{3}{8}$	12	42	21	48 $\frac{1}{2}$	2 $\frac{11}{16}$	8	850	5-inch I-beam
96	116 $\frac{1}{4}$	2 $\frac{3}{8}$	12	48	23 $\frac{1}{2}$	54 $\frac{1}{2}$	2 $\frac{15}{16}$	8 $\frac{1}{2}$	980	6-inch I-beam

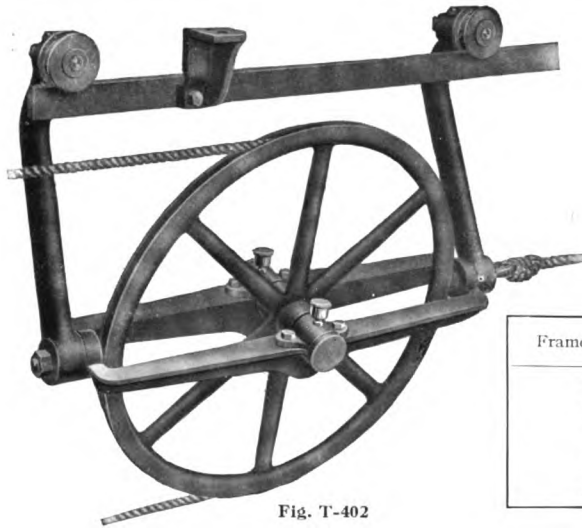


Fig. T-402

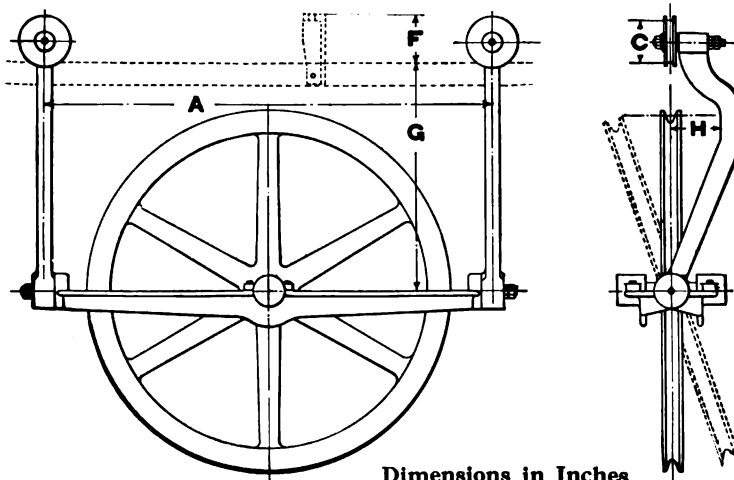
Rope Transmission

Horizontal Single Track Tension Carriage, Style B

This carriage is suitable for use where space is limited. The sheave is adjustable to any angle.

Prices include weight rods but not weights, sheaves or track.

Frame Numbers	For Sheave, Diameter in Inches	List Prices
30	30 and smaller	\$25.00
36	32 to 36 inclusive	35.00
42	38 " 42 "	45.00
48	44 " 48 "	60.00
54	50 " 54 "	80.00
60	56 " 60 "	100.00



Dimensions in Inches

Frame Numbers	H	F	G	A	C	Track Dimensions	Bore of Sheave	Maximum Hub Length of Sheave	Weight of Carriage without Sheave
30	Variable, depending on number of ropes	5½	22	41¾	4	1½x3	11⅞	5½	145
36		5½	25	47¾	4	1½x3	11⅞	5½	175
42		7½	28	54¼	6	1½x3	2 3/16	6	240
48		7½	31	60½	6	1½x3	2 3/16	6½	325
54		7½	34	66½	6	1½x4	2 3/16	6½	380
60		7½	37	73	6	1½x4	2 7/16	7½	525

Price List of Tension Weights—(Weight Specified is for Carriages Operating on Horizontal Track)

Rope Sizes, Inches	Approximate Weight Required, Pounds	Approximate Number of Weights Required	Weights			
			Diameter, Inches	Thickness, Inches	Weights In Pounds, Each	List Price, Each
¾	180	8	8	2	24	\$2.00
7/8	250	11	8	2	24	2.00
1	320	9	10	2	36	2.75
1 1/8	400	11	10	2	36	2.75
1 1/4	500	14	10	2	36	2.75
1 3/8	600	11	12	2	56	4.25
1 1/2	720	13	12	2	56	4.25
1 3/4	1000	18	12	2	56	4.25
2	1280	23	12	2	56	4.25

When carriage operates on incline, amount of tension weight required varies with inclination.

Rope Transmission

Vertical Tension Carriage, Style E

This tension carriage embodies the same features as the horizontal carriage, style D (Fig. T-401).

The combined weight of these frames and sheaves frequently exceeds the amount of tension weight necessary for the drive, and under such circumstances counterbalancing is required.

Prices include weight rods but not weights, sheaves or track.

Price List

Frame Numbers	Sheave Diameter in Inches	List Prices
30	30 and smaller	\$32.00
36	32 to 36 inclusive	45.00
42	38 " 42 "	50.00
48	44 " 48 "	68.00
54	50 " 54 "	89.00
60	56 " 60 "	116.00
66	62 " 66 "	148.00
72	68 " 72 "	185.00
84	74 " 84 "	223.00
96	86 " 96 "	248.00

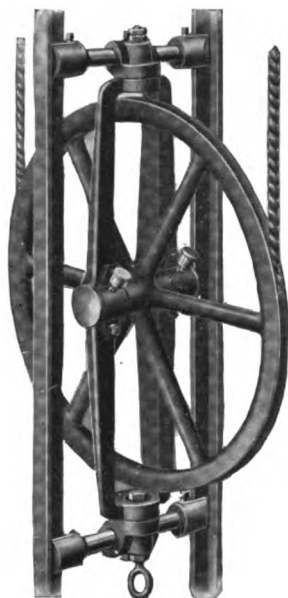
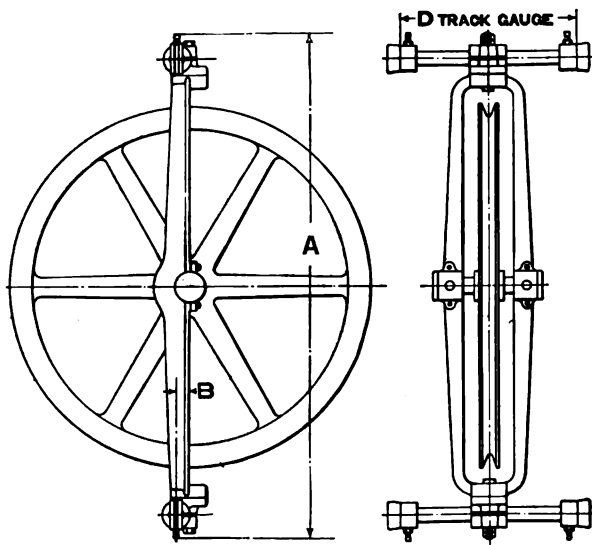


Fig. T-403



Dimensions in Inches

Frame Numbers	A	B	Track Gauge D		Size Angle for Track	Bore of Sheave	Maximum Hub Length of Sheave	Weight of Carriage without Sheave
			Standard	Minimum				
30	45 1/2	13 3/8	15	13 1/2	2 1/2 x 2 1/2 x 1/4	1 11/16	5 1/2	130
36	51 1/2	13 3/8	18	13 1/2	2 1/2 x 2 1/2 x 1/4	1 11/16	5 1/2	150
42	59 3/4	13 3/4	21	15	2 1/2 x 2 1/2 x 1/4	2 3/16	6	220
48	66	13 3/4	24	15 1/2	2 1/2 x 2 1/2 x 1/4	2 3/16	6 1/2	250
54	72	13 3/4	27	15 1/2	3 x 3 x 5/16	2 3/16	6 1/2	280
60	79	17 7/8	30	17 1/2	3 x 3 x 5/16	2 7/16	7 1/2	430
66	85 1/2	17 7/8	33	17 1/2	3 1/2 x 3 1/2 x 5/16	2 7/16	7 1/2	470
72	92 1/2	17 7/8	36	18 1/2	3 1/2 x 3 1/2 x 5/16	2 7/16	7 1/2	540
84	107 3/4	23 3/8	42	21	3 1/2 x 3 1/2 x 5/16	2 11/16	8	700
96	121 1/4	23 3/8	48	23 1/2	3 1/2 x 3 1/2 x 5/16	2 15/16	8 1/2	830

Swinging Tension Carriages

Style F

This carriage is suitable for use with light drives where track is unnecessary. Prices include weight rods but not weights or sheaves.

Price List—Frame without Sheave.



Fig. T-404

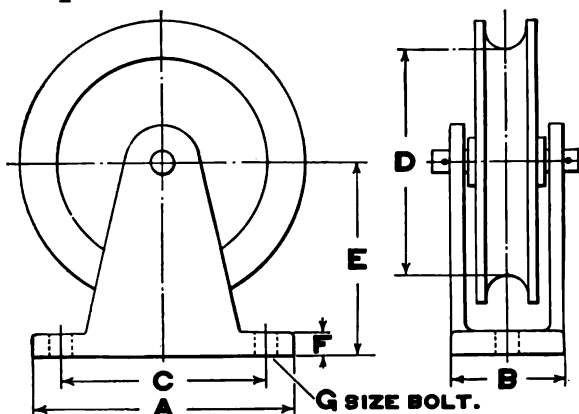
Frame Numbers	For Sheave—Diameter, Inches	List Prices	Weight of Frames
24	24 and smaller	\$13.25	30
30	26 to 30 inclusive	14.50	40
36	32 " 36 "	17.00	50
42	38 " 42 "	18.30	75
48	44 " 48 "	19.60	100

Diameter Sheave, Inches	Weights of Single Groove Solid Tension Carriage Sheaves for Various Sizes of Rope in Inches						
	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2
18	60						
24	75	80					
30	90	100	115				
36	130	140	150	200	214		
42	166	175	190	220	235	250	
48		190	250	260	312	395	430
54			300	310	378	420	580
60			375	400	440	550	660
66				500	530	680	730
72				590	620	750	850
84					720	820	940
90					810	900	1020
96						960	1100

Tail Rope Sheaves



Fig. T-405



Price List

Dimensions in Inches									List Prices
Rope Sizes, Inches	Size Number	A	B	C	D	E	F	Size Bolt G	
1/2 to 1	1	6 7/8	3 1/16	5 3/8	6	5 1/8	5/8	1/2	\$6.00
1 1/8 " 1 1/2	2	8 1/2	3 15/16	6 3/4	8	6 3/4	3/4	5/8	9.00
1 5/8 " 2	3	11	4 7/8	9	10	8 5/8	7/8	3/4	12.00

Price List of Thimbles

Rope Diameter, Inches	Thimbles, Each	Rope Diameter, Inches	Thimbles, Each
3/4	\$0.50	1 3/8	\$1.30
7/8	.60	1 1/2	1.60
1	.70	1 3/4	2.40
1 1/8	.80	2	3.50
1 1/4	1.00		

It is recommended that the same size manila rope be used for the weight rope as is used in the drive and also that galvanized thimbles be used in attaching it to the carriage and weight rod.

Rope Transmission Track and Track Hangers

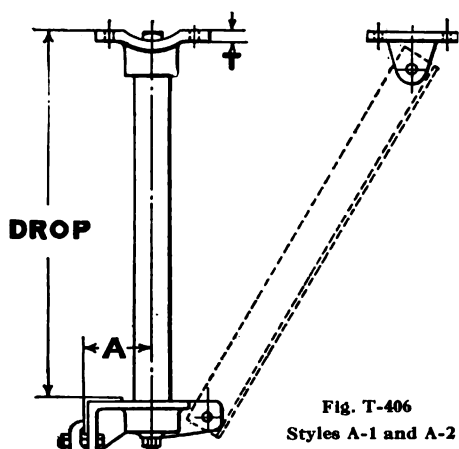
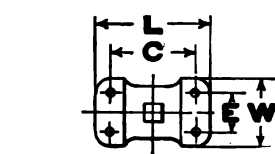


Fig. T-406
Styles A-1 and A-2

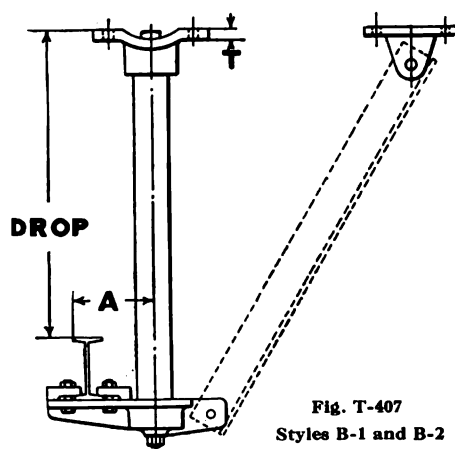
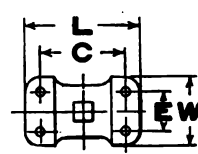


Fig. T-407
Styles B-1 and B-2

Tension carriage track can be furnished of plain steel angles drilled for fastening to timber or special all structural steel work. Prices on application.

Track hangers for single and double track tension carriages designed to suit the drive and the type of track to be supported, can be supplied.

Price List

Track Hanger Symbols	For Tension Carriage Frame Number	Dimensions in Inches								Bolt Re- quired	Drop in Inches				
		Size of Track	A	L	W	C	E	T	12		18	24	30	36	
A-1	30-36	2 ×2 × ¹ / ₄ L	4 ¹ / ₂	7 ¹ / ₂	4 ¹ / ₂	5 ¹ / ₂	2 ¹ / ₂	¹¹ / ₁₆	4- ¹ / ₂	\$6.25	\$6.75	\$7.25	\$7.75	\$8.50	
A-2	42-48	2 ¹ / ₂ ×2 ¹ / ₂ × ¹ / ₄ L	4 ¹ / ₂	7 ¹ / ₂	4 ¹ / ₂	5 ¹ / ₂	2 ¹ / ₂	¹¹ / ₁₆	4- ¹ / ₂	6.25	6.75	7.25	7.75	8.50	
B-1	54-60	3 in., 5 ¹ / ₂ lb. I beam	5 ¹ / ₄	9	5 ¹ / ₂	6 ¹ / ₂	3	¹³ / ₁₆	4- ⁵ / ₈	10.75	11.50	12.50	13.50	14.50	
B-2	66-72	4 in., 7 ¹ / ₂ lb. I beam	5 ¹ / ₂	9	5 ¹ / ₂	6 ¹ / ₂	3	¹³ / ₁₆	4- ⁵ / ₈	.....	.....	.....	16.00	17.50

Manila Transmission Rope

Made expressly for power transmission purposes of long fibers carefully selected from the highest quality manila hemp. It is laid up with a special lubricating compound to protect and preserve the fibers.

This rope is regularly supplied in four strands with core.

Three-strand rope without core can be furnished if required.

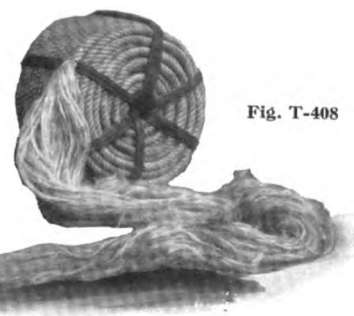


Fig. T-408

Diameter of Rope, Inches	Square of Diameter	Approx. Weight per Foot	Approx. Breaking Strength	Length in Feet Required for Splice	Diameter of Rope, Inches	Square of Diameter	Approx. Weight per Foot	Approx. Breaking Strength	Length in Feet Required for Splice
3/4	.5625	.20	4500	8	1 3/8	1.8906	.65	15125	12
7/8	.7656	.26	6125	8	1 1/2	2.25	.77	18000	12
1	1.	.34	8000	10	1 5/8	2.6406	.90	21125	12
1 1/8	1.2656	.43	10125	10	1 3/4	3.0625	1.04	24500	12
1 1/4	1.5625	.53	12500	10	2	4.	1.36	32000	14

Cast-Iron Pulleys



Fig. T-409

Split pulleys of this type are made solid in the casting and split apart before finishing, which insures true running. When bolted together the two halves intermember at rim fractures, making a permanent joint.

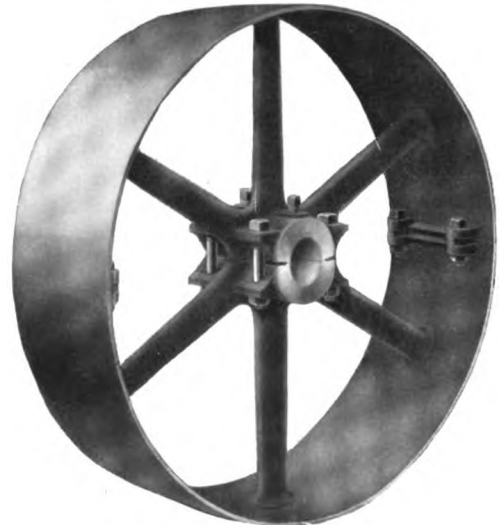


Fig. T-410

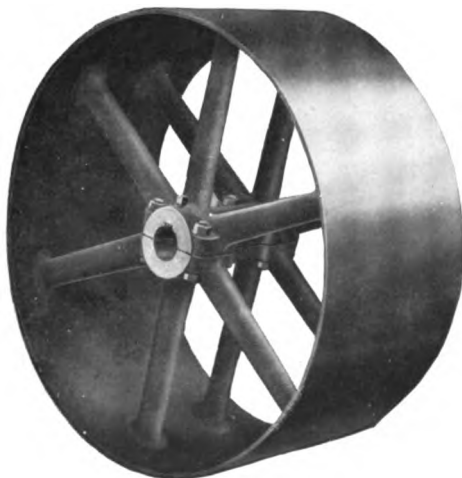


Fig. T-411

These pulleys, in nominal face widths greater than 24 inches, are made with two or more sets of arms.

Pulleys 6 to 9 inch diameters have 4 arms to a set.

Pulleys 10 to 94 inch diameters have 6 arms to a set.

Pulleys 96 to 120 inch diameters have 8 arms to a set.

Cast-Iron Pulleys



Fig. T-412

Balance wheels and fly wheels for belt or rope service will be furnished, and prices quoted upon receipt of specifications giving dimensions and thickness of rim or total weight of wheel required.

Cast-iron pulleys are used for many purposes other than the direct transmission of power from one shaft to another. It is, therefore, necessary to classify the different types in order that a basis for figuring prices may be determined.

Split pulleys made as illustrated (Fig. T-412) are suitable for heavy duty and high rim velocity. The return flanges at edges of rim and the split-through-arm construction greatly strengthen the rim at fracture. This type of split pulley is recommended for rim velocities in excess of 4000 feet per minute.



Fig. T-413

Classification of Pulleys

Standard transmission pulleys.

Pulleys with exact diameter or exact face or both.

Machine tool and special machine pulleys.

Motor and generator pulleys.

Web or disc center pulleys.

Specially designed high speed pulleys.

Dynamically balanced pulleys.

Pulleys split through arms.

Special pulleys not covered by specification of standard transmission pulleys.

Standard Transmission Pulleys

Diameter—Nominal.

Face—Slightly wider than belt used.

Hub—Our standard diameter and length for size shaft and belt used.

Length of hub for regular pulley is less than width of face with unfinished ends.

Length of hub for loose pulley is slightly in excess of face width with both ends finished.

(Extra charge.) See page 108.

Bore—To standard gauge within maximum limits of table, page 102, and involving no metric sizes or fractions less than $\frac{1}{16}$ inch.



Classification of Pulleys

Standard Transmission Pulleys—Continued

Balance—Pulleys 38 inches in diameter and less, are balanced statically to perform standard transmission service at a speed not in excess of 300 revolutions per minute.

Pulleys 39 inches and greater are balanced for a rim velocity not in excess of 3000 feet per minute.

Pulleys which are to operate at a higher rim velocity or revolutions per minute than specified under this heading may be balanced dynamically. (Extra charge covering labor.)

List prices for standard transmission pulleys made to above general specifications, including standard single belt and double belt solid, split, clamp hub, tight and loose and flange pulleys may be found on pages 103 to 107 inclusive, also standardized extras, pages 102 and 108 to 110.

Special Features for Which an Extra Charge Is Made

Exact Diameter—Specify whether at crown or edge of rim. Diameters vary slightly from the nominal diameter listed. When exact diameters are required an extra charge is made in proportion to the time required for machining and for any necessary alteration of patterns.

For Face Widths Exceeding the Nominal Face Widths by More than $\frac{1}{4}$ Inch—Use list prices of the next wider face.

Double Crown Face—Charge covering extra labor required.

Fractional Diameters—The following are our standard patterns:

Every half inch—6 to 24 inches. (One-half inch diameters, take the next larger full diameter listed.)

Every inch—24 to 50 inches.

Every two inches—52 to 120 inches. (Intermediate diameters in full inches, take the next larger diameter listed.)

For any fractional diameters not covered by the above, use a list price obtained by adding 20 per cent to the next larger diameter double belt pulley listed.

Thickness of Rim Other than Standard—Extra charges are based on additional metal and labor required.

Exact Width of Face—Charge for extra labor required.

Rough Turning Under Side of Rim — Hubs Rough Turned—Extra charges based on additional material and labor required.

Hubs Turned to Given Diameter—Extra charge in accordance with machine work required.

Facing Ends of Standard Length Hubs—For one end, extra list equivalent to one-half of 3-4 inch face tight and loose extra, page 108. For both ends, full list of 3-4 inch face tight and loose extra, page 108.



Classification of Pulleys

Special Features for which an Extra Charge is Made—Continued

Hubs Longer Than Standard—Extra for metal and machine work required.

Hubs Offset—Arms Offset—Extra for necessary pattern work.

Split Pulleys Split Through Arms—Recommended for a rim velocity in excess of 4000 feet per minute, extra of 10 per cent added to list price of regular double belt split pulleys. If return flanges are also required, add list prices, page 109.

Odd Bores—Within maximum and minimum limits of table page 102 but involving fractions less than $\frac{1}{16}$ inch, as $\frac{1}{32}$ inch, $\frac{1}{64}$ inch, etc., or metric sizes—extra to cover special tools that may be necessary.

Disproportionate Bores—Above maximum or below minimum limits of table, page 102, and not involving fractions less than $\frac{1}{16}$ or metric sizes. Extras to cover additional machine work and metal required.

Odd Disproportionate Bores—Above maximum or below minimum limits in table, page 102, and involving fractions less than $\frac{1}{16}$, or metric sizes. Extra to cover additional machine work and metal required, also special tools that may be necessary.

Dynamic Balance for Any Rim Velocity Within 5200 Feet Per Minute—Extra will be based on additional labor required.

Bores Made to Gauges Furnished—Extra to cover any special tools and additional labor required.

Speeds in Excess of Standard Limits, Page 99—Extra to cover additional machine work required.

A safe speed limit for solid cast-iron pulleys and for split pulleys, split through arm construction, is 5000 feet per minute rim velocity. For split rims standard arm construction within 4000 feet per minute rim velocity.

Keyseating Single Belt Pulleys In Addition to Set-Screwing—Also furnishing keys and fitting pulleys to shaft. Extras as per list, page 110.

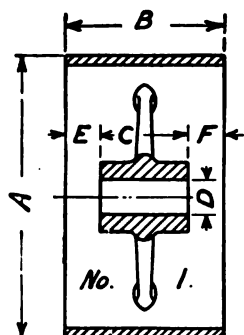
Web or Disc Center Pulleys—Extra based on additional material and labor required.

Extra Heavy Double Belt Pulleys—Add 20 per cent to double belt list.

Double Extra Heavy Double Belt Pulleys—Add 40 per cent to double belt list.

Charges for Any Specific Features not mentioned will be based on material and labor required.

Directions for Ordering Pulleys



A careful observance of the following suggestions for ordering pulleys will avoid errors and save time.

In making out orders, describe pulleys and give dimensions in the following order:

1—Service

State whether for single or double belt.

If neither is specified, single belt pulleys will be furnished as far as listed.

If greater horse power than a double leather belt is required, the amount of horse power, revolutions per minute and character of service should be specified.

2—Description

State whether solid, split, clamp hub, tight and loose, flange or special.

If no description is given, plain solid pulleys will be furnished.

If special pulleys are required, send sketch showing details of special features.

In sending sketches, observe the following instructions.

3—Diameter

Specify diameter in inches. This should be the first dimension given.

If exact diameter is required, mention this fact in making out order and state whether measurement shall be made at crown or edge of rim.

An extra charge is made for exact diameter.

4—Face

Specify face in inches. This should be the second dimension given and should be specified as the width of belt to be used unless an exact width of face is desired, in which case the fact should be noted on the order by having the word *exact* follow dimension of face.

An extra charge is made for making face exact.

Pulleys are made with faces of sufficient width to carry belts of the nominal widths specified in lists.

Pulleys ordered to have faces more than one-quarter inch wider than size listed, will be charged at next wider list.

5—Bore

Specify exact diameter of shaft in inches. This should be the third dimension given.

If shaft is of an odd or special diameter, make a gauge to accompany order.

Under no circumstances send in an order for pulley to be bored $1\frac{1}{16}$ inch scant, $2\frac{7}{16}$ inch full, or about $\frac{1}{4}$ inch under 3 inches.

6—Crown or Straight Face

After specifying dimensions of pulley state whether crown or straight face.

If neither is specified crown face pulleys will be furnished.

Pulleys for belts which do not shift should have crown faces.

Pulleys for shifting belts should have straight faces.

Each pulley of a pair of tight and loose pulleys should have crown face.

7—Keyseat or Set Screw

State whether keyseated or set screwed or both.

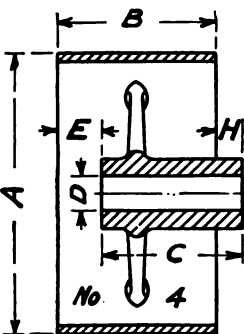
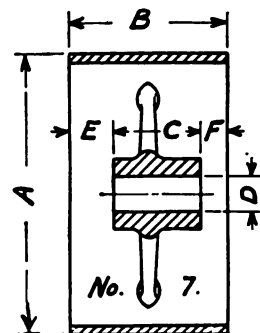
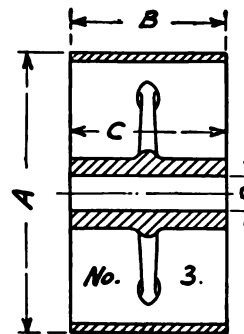
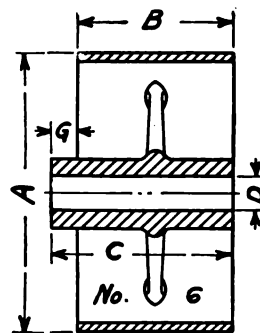
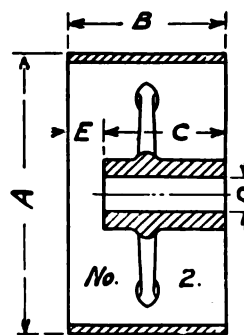
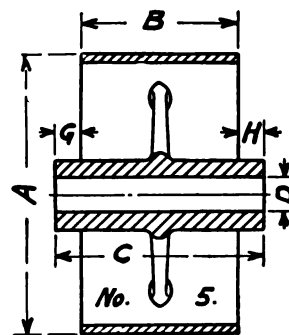
If neither is specified, set screws only will be furnished.

If keyseated, state whether straight or taper.

Taper keyseats will be cut with $\frac{1}{8}$ inch taper per foot, unless otherwise specified.

If size of keyseat is not specified standard will be used, see page 110.

Straight keyseat with set screws over are recommended for split hub pulleys.



In making sketches special care should be taken to indicate those dimensions required to be exact. The bore will always be considered an exact dimension, but the diameter, width of face and length of hub are dimensions which are not always required to be of an exact size. A rough sketch will serve very satisfactorily if the dimensions are correctly specified. Make your sketch on a separate piece of paper and mark dimensions instead of letters.

Cast-Iron Pulleys



Fig. T-414

The cast-iron pulley illustrated (Fig. T-414) is suggestive of possibilities in the way of requirements for pulleys having bores disproportionate to their diameters, and as the making of these is at a much greater proportionate cost than pulleys with standard bores, a list tabulating the maximum and minimum limits of bores for standard transmission pulleys with extras to be added for pulleys with bores larger or smaller than standard limits, is given herewith.

Our facilities for supplying cast-iron pulleys of any description are unexcelled and we solicit your inquiries for special pulleys of this type.

Additional Prices to be Added to Cost of Pulleys with Bores Larger or Smaller than Standard Bore Limits

Diameter of Pulleys, Inches	Maximum Bores, Inches	Add for Each Additional					Minimum Bores, Inches	For Smaller Bores Add
		1/4 inch or Fraction	1/2 inch or Fraction	1 inch or Fraction	1 1/2 inches or Fraction	2 inches or Fraction		
6— 6 1/2 inclusive	2	10%					13 1/16	10%
7— 8 1/2 "	2 1/4	10%					13 1/16	10%
9— 9 1/2 "	2 1/2	10%					13 1/16	10%
10— 13 "	2 3/4	10%					13 1/16	10%
14— 20 "	3		10%				1 3/16	5%
21— 30 "	3 1/2		10%				1 7/16	5%
31— 42 "	4		5%				1 13/16	5%
43— 54 "	4 1/2		5%				2 3/16	5%
55— 66 "	5			5%			2 7/16	5%
67— 78 "	6			5%			2 11/16	5%
79— 90 "	7				5%		2 13/16	5%
91— 102 "	8				5%		3 7/16	5%
103— 120 "	9					5%	3 7/16	5%

Solid rim clamp hub pulleys are often desirable where an exceptionally *close fit* to shaft is required.

List price of clamp hub pulley is obtained by adding to list price of solid pulley, one-half of the difference between solid and split pulley lists.



Fig. T-415



Single Belt Solid and Split Cast-Iron Pulleys

Machine molded, bored accurately to shaft size, turned and balanced carefully.

List prices of single belt pulleys include keyseat or set screws. If both are required there will be an extra charge as per list, page 110.

These pulleys are made to standard transmission specifications, pages 98 and 99.

Price List

SOLID SINGLE BELT									SPLIT SINGLE BELT								
Diameters, Inches	Nominal Face Widths in Inches								Diameters, Inches	Nominal Face Widths in Inches							
	3	4	5	6	7	8	9	10		3	4	5	6	7	8	9	10
6	\$2.20	\$2.50	\$2.85	\$3.20	\$3.60	\$4.05			6	\$3.70	\$4.00	\$4.60	\$4.95	\$5.60	\$6.05		
7	2.40	2.75	3.10	3.50	3.95	4.40			7	3.90	4.25	4.85	5.25	5.95	6.40		
8	2.65	3.00	3.40	3.80	4.25	4.75			8	4.25	4.60	5.30	5.70	6.45	6.95		
9	2.90	3.25	3.65	4.10	4.60	5.10			9	4.50	4.85	5.55	6.00	6.80	7.30		
10	3.10	3.50	3.95	4.40	4.90	5.45			10	4.80	5.20	6.00	6.45	7.30	7.85		
11	3.30	3.75	4.20	4.70	5.25	5.85			11	5.00	5.45	6.25	6.75	7.65	8.25		
12	3.60	4.05	4.55	5.10	5.70	6.30			12	5.40	5.85	6.75	7.30	8.30	8.90		
13	3.90	4.35	4.90	5.50	6.10	6.75	\$7.45		13	5.45	6.15	7.10	7.70	8.70	9.35	\$10.50	
14	4.05	4.65	5.10	5.75	6.45	7.20	7.95		14	6.00	6.60	7.50	8.15	9.30	9.95	11.30	
15	4.35	4.85	5.65	6.10	6.85	7.70	8.60		15	6.30	6.80	8.05	8.50	9.70	10.55	11.95	
16	4.65	5.20	5.80	6.50	7.30	8.20	9.20		16	6.75	7.30	8.40	9.10	10.40	11.30	12.85	
17	4.90	5.50	6.25	7.00	7.85	8.75	9.75		17	7.00	7.60	8.85	9.60	10.95	11.95	13.40	
18	5.20	5.85	6.60	7.40	8.30	9.30	10.40		18	7.45	8.05	9.40	10.20	11.70	12.65	14.35	
19	5.45	6.25	7.05	7.90	8.85	9.85	10.95		19	7.70	8.50	9.85	10.70	12.20	13.20	14.90	
20	5.75	6.65	7.55	8.50	9.45	10.45	11.55	\$12.70	20	8.20	9.10	10.60	11.55	13.10	14.10	15.85	\$17.00
21	6.05	7.00	8.00	9.00	10.00	11.00	12.10	13.25	21	8.50	9.45	11.05	12.05	13.65	14.65	16.40	17.55
22	6.35	7.40	8.45	9.50	10.55	11.55	12.65	13.85	22	9.00	10.05	11.75	12.80	14.50	15.50	17.30	18.50
23	6.70	7.80	8.90	10.00	11.10	12.15	13.30	14.45	23	9.35	10.45	12.20	13.30	15.05	16.10	17.95	19.10
24	7.05	8.20	9.35	10.50	11.65	12.80	14.00	15.20	24	9.85	11.00	12.90	14.05	15.90	17.05	19.00	20.20
25	7.40	8.60	9.80	11.00	12.20	13.40	14.65	15.90	25	10.20	11.40	13.35	14.55	16.45	17.65	19.65	20.90
26	7.75	9.00	10.25	11.50	12.75	14.05	15.35	16.70	26	10.75	12.00	14.10	15.35	17.35	18.65	20.75	22.10
27	8.15	9.50	10.80	12.10	13.45	14.80	16.20	17.65	27	11.15	12.50	14.65	15.95	18.05	19.40	21.60	23.05
28	8.55	9.95	11.35	12.75	14.15	15.55	17.00	18.50	28	11.80	13.20	15.50	16.90	19.10	20.50	22.80	24.30
29	9.00	10.50	12.00	13.45	14.90	16.35	17.95	19.45	29	12.25	13.75	16.15	17.60	19.85	21.30	24.75	25.25
30	9.40	10.90	12.45	14.00	15.85	17.15	18.75	20.35	30	12.90	14.40	16.90	18.45	21.15	22.45	24.95	26.55
31	9.85	11.40	12.95	14.55	16.15	17.80	19.50	21.25	31	13.35	14.90	17.40	19.00	21.45	23.10	25.70	27.45
32	10.30	11.90	13.55	15.20	16.90	18.60	20.35	22.15	32	14.10	15.70	18.35	20.00	22.60	24.30	27.00	28.80
33	10.80	12.40	14.10	15.85	17.65	19.45	21.30	23.15	33	14.60	16.20	18.90	20.65	23.25	25.10	27.95	29.80
34	11.35	12.95	14.70	16.50	18.40	20.30	22.20	24.15	34	15.45	17.05	19.85	21.65	24.50	26.40	29.30	31.25
35	11.85	13.50	15.30	17.15	19.10	21.20	23.10	25.15	35	15.95	17.60	20.45	22.30	25.20	27.30	30.20	32.25
36	12.40	14.20	16.05	18.00	20.05	22.10	24.15	26.20	36	16.80	18.60	21.55	23.50	26.55	28.60	31.70	33.75
37	14.90	16.90	18.95	21.00	23.10	25.20	27.30		37	19.30	22.40	24.45	27.50	29.60	31.65	34.85	
38	15.65	17.70	19.80	21.95	24.10	26.25	28.40		38	20.40	23.65	25.70	28.90	31.05	34.30	36.45	
39	16.20	18.35	20.50	22.70	24.90	27.10	29.35		39	20.95	24.25	26.40	29.65	31.85	35.15	37.40	
40	16.75	18.95	21.15	23.40	25.70	28.00	30.30		40	21.85	25.25	27.45	30.80	33.10	36.55	38.85	
41	17.30	19.55	21.85	24.20	26.55	28.90	31.25		41	22.40	25.85	28.15	31.60	33.95	37.45	39.80	
42	17.90	20.20	22.60	25.00	27.40	29.80	32.20		42	23.35	26.90	29.30	32.85	35.25	38.85	41.25	
43	18.60	21.00	23.40	25.85	28.30	30.75	33.20		43	24.05	27.70	30.10	33.70	36.15	39.80	42.25	
44	19.30	21.75	24.20	26.70	29.25	31.80	34.30		44	25.15	28.90	31.35	35.05	37.60	41.40	43.90	
45	20.00	22.50	25.05	27.60	30.20	32.80	35.40		45	25.85	29.65	32.20	35.95	38.55	42.40	45.00	
46	20.80	23.35	25.95	28.55	31.20	33.85	36.50		46	27.05	30.95	33.55	37.40	40.05	44.00	46.65	
47	21.60	24.20	26.85	29.50	32.20	34.90	37.60		47	27.85	31.80	34.45	38.35	41.05	45.05	47.75	
48	22.40	25.05	27.75	30.45	33.20	35.95	38.75		48	29.05	33.10	35.80	39.80	42.55	46.65	49.45	

For horse power capacity, see table, page 115.



Double Belt Solid Single-Arm Cast-Iron Pulleys

Machine molded, bored accurately to shaft size, turned and balanced carefully.

List prices of double belt pulleys include both keyseat and set screws.

These pulleys are made to standard transmission specifications, pages 98 and 99.

Price List

Diam- eter	Nominal Face Widths in Inches																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20	22	24	
6	\$2.50	\$2.80	\$3.15	\$3.60	\$4.10	\$4.55	\$5.05	\$5.55	\$6.05	\$6.55									
7	2.70	3.05	3.50	3.95	4.40	4.90	5.35	5.85	6.35	6.85									
8	2.90	3.35	3.80	4.25	4.75	5.25	5.80	6.35	6.95	7.60									
9	3.20	3.65	4.15	4.65	5.20	5.75	6.30	6.90	7.50	8.15									
10	3.45	3.95	4.45	5.00	5.55	6.15	6.80	7.50	8.20	8.95									
11	3.70	4.25	4.80	5.40	6.00	6.65	7.30	8.00	8.75	9.55									
12	3.95	4.55	5.15	5.80	6.45	7.15	7.85	8.60	9.35	10.15	10.95	\$11.75	\$12.60						
13	4.20	4.85	5.50	6.20	6.90	7.65	8.40	9.20	10.00	10.85	11.70	12.60	13.50						
14	4.50	5.20	5.95	6.70	7.50	8.30	9.10	9.95	10.80	11.70	12.60	13.50	14.45						
15	4.80	5.55	6.35	7.15	8.00	8.85	9.75	10.65	11.60	12.55	13.50	14.50	15.50						
16	5.10	5.80	6.60	7.45	8.50	9.20	10.10	11.05	12.00	13.00	14.00	15.00	16.05	\$17.20					
17	5.40	6.25	7.10	8.00	8.90	9.85	10.80	11.80	12.80	13.85	14.90	16.00	17.10	18.25					
18	5.70	6.65	7.60	8.55	9.55	10.55	11.60	12.65	13.75	14.85	15.90	17.05	18.25	19.45					
19	6.05	7.05	8.10	9.15	10.25	11.35	12.40	13.55	14.70	15.90	17.10	18.35	19.60	20.90	\$23.55				
20	6.40	7.45	8.55	9.65	10.80	11.95	13.15	14.35	15.60	16.85	18.15	19.45	20.80	22.15	24.95				
21	6.75	7.85	9.00	10.15	11.35	12.55	13.80	15.05	16.35	17.65	19.00	20.35	21.75	23.15	26.05				
22	7.10	8.30	9.50	10.75	12.00	13.30	14.60	15.95	17.30	18.70	20.10	21.55	23.00	24.50	27.55	\$30.70			
23	7.50	8.75	10.05	11.35	12.70	14.05	15.45	16.85	18.30	19.75	21.25	22.75	24.30	25.85	29.05	32.35			
24	7.90	9.25	10.60	12.00	13.40	14.85	16.30	17.80	19.30	20.85	22.40	24.00	25.60	27.25	30.60	34.05			
25	8.35	9.75	11.20	12.65	14.15	15.65	17.20	18.75	20.35	21.95	23.60	25.25	26.95	28.65	32.15	35.75	\$39.45		
26	8.80	10.30	11.80	13.35	14.90	16.50	18.10	19.75	21.40	23.10	24.80	26.55	28.30	30.10	33.75	37.50	41.35		
27	9.30	10.85	12.45	14.05	15.70	17.35	19.05	20.75	22.50	24.25	26.05	27.85	29.70	31.55	35.35	39.25	43.25		
28	9.80	11.45	13.10	14.80	16.50	18.25	20.00	21.80	23.60	25.45	27.30	29.20	31.10	33.05	36.90	40.95	45.10		
29	10.30	12.00	13.75	15.50	17.30	19.10	20.95	22.80	24.70	26.60	28.55	30.50	32.50	34.50	38.60	42.80	47.10		
30	10.85	12.65	14.45	16.30	18.15	20.05	21.95	23.90	25.85	27.85	29.85	31.90	33.95	36.00	40.25	44.60	49.05		
31	11.40	13.25	15.15	17.05	19.00	20.95	22.95	24.95	27.00	29.05	31.15	33.25	35.40	37.55	41.95	46.45	51.10		
32	11.95	13.90	15.85	17.85	19.85	21.90	23.95	26.05	28.15	30.30	32.50	34.70	36.95	39.20	43.80	48.50	53.30		
33	12.50	14.50	16.55	18.60	20.70	22.80	24.95	27.10	29.30	31.55	33.80	36.10	38.40	40.75	45.50	50.35	55.30	\$60.35	
34	13.10	15.20	17.30	19.45	21.60	23.80	26.05	28.30	30.60	32.90	35.25	37.60	40.00	42.40	47.30	52.30	57.40	62.65	
35	13.70	15.90	18.10	20.35	22.60	24.90	27.20	29.55	31.90	34.30	36.70	39.15	41.60	44.10	49.15	54.30	59.60	65.00	
36	14.30	16.55	18.85	21.15	23.50	25.85	28.25	30.70	33.15	35.65	38.15	40.70	43.25	45.85	51.10	56.45	61.90	67.40	
37		17.25	19.65	22.05	24.50	26.95	29.45	31.95	34.50	37.05	39.65	42.25	44.80	47.55	52.95	58.45	64.10	69.85	
38		18.00	20.50	23.00	25.55	28.10	30.70	33.30	35.95	38.60	41.30	44.00	46.75	49.50	55.10	60.80	66.55	72.35	
39		18.75	21.30	23.85	26.40	29.00	31.60	34.25	36.80	39.60	42.30	45.05	47.80	50.60	56.25	62.00	67.85	73.80	
40		19.50	22.15	24.80	27.45	30.10	32.80	35.50	38.20	40.95	43.70	46.45	49.25	52.05	57.75	63.50	69.35	75.35	
41		20.25	23.00	25.65	28.40	31.15	33.90	36.65	39.45	42.25	45.05	47.85	50.70	53.55	59.25	65.05	70.90	76.80	
42		21.05	23.85	26.65	29.45	32.25	35.10	37.95	40.80	43.70	46.60	49.50	52.45	55.40	61.35	67.35	73.35	79.40	
43		21.85	24.75	27.65	30.55	33.45	36.40	39.35	42.30	45.25	48.25	51.25	54.25	57.25	63.35	69.50	75.75	82.05	
44		22.65	25.65	28.65	31.65	34.65	37.70	40.75	43.80	46.85	49.95	53.05	56.15	59.25	65.55	71.80	78.25	84.75	
45		23.50	26.55	29.60	32.65	35.75	38.85	41.95	45.10	48.25	51.40	54.60	57.80	61.00	67.50	74.05	80.70	87.50	
46		24.35	27.50	30.65	33.85	37.05	40.25	43.45	46.70	49.95	53.20	56.50	59.80	63.10	69.80	76.55	83.40	90.30	
47		25.20	28.45	31.70	34.95	38.20	41.50	44.80	48.10	51.45	54.80	58.15	61.55	64.95	71.85	78.85	85.95	93.10	
48		26.10	29.40	32.75	36.10	39.45	42.85	46.25	49.65	53.10	56.55	60.00	63.50	67.00	74.10	81.30	88.60	95.95	
49		27.00	30.40	33.90	38.40	41.95	45.50	49.10	52.70	56.35	60.00	63.70	67.40	71.15	78.70	86.35	94.15	102.05	
50		27.90	31.40	34.90	39.40	42.95	46.55	50.25	53.95	57.75	61.55	65.35	69.15	73.00	80.85	88.75	96.75	104.80	
51		28.80	32.50	36.00	40.50	44.05	47.65	51.35	55.05	58.85	62.65	66.45	70.30	74.15	82.25	90.35	98.55	106.75	
52		29.70	33.60	37.10	41.60	45.15	48.75	52.45	56.15	59.95	63.75	67.55	71.40	75.25	83.65	91.95	100.35	108.65	
53		30.60	34.70	38.20	42.70	46.25	49.85	53.55	57.25	61.05	64.85	68.65	72.50	76.35	85.05	93.55	102.05	110.45	
54		31.55	35.65	39.30	43.85	47.35	50.95	54.65	58.35	62.15	65.95	69.75	73.60	77.45	86.45	95.15	103.75	112.25	
55		32.50	36.65	40.40	44.95	48.45	52.15	55.85	59.55	63.35	67.15	70.95	74.80	78.65	88.05	96.95	105.75	114.45	
56		33.50	37.65	41.50	46.05	49.55	53.25	56.95	60.65	64.45	68.25	72.05	75.90	79.75	90.05	99.15	108.15	117.05	
57		34.50	38.65	42.60	47.15	50.65	54.35	58.05	61.75	65.55	69.35	73.15	77.00	80.85	91.45	100.75	109.95	119.05	
58		35.50	40.25	44.60	49.00	53.45	57.15	60.85	64.55	68.35	72.15	75.95	79.80	83.65	94.65	104.15	113.55	122.65	
59		36.50	41.25	45.60	49.95	54.45	58.15	61.85	65.55	69.35	73.15	76.95	80.80	84.65	96.05	105.75	115.35	124.55	
60		37.50	42.25	46.65	51.00	55.55	59.25	62.95	66.65	70.45	74.25	78.05	81.90	85.75	97.45	107.35	117.15	126.45	
61			47.25	51.85	56.50	61.20	65.90	70.65	75.45	80.30	85.15	90.05	95.00	100.05	112.05	124.25	136.65		
62			48.85	54.60	59.40	64.25	69.10	74.00	78.90	83.85	88.80	93.75	98.75	103.80	116.15	128.65	141.35		
63			50.45	56.30	61.15	66.05	70.95	75.90	80.85	85.85	90.85	95.85	100.90	105.95	118.65	131.35	144.25		
64			52.05	57.95	62.85	67.80	72.75	77.75	82.75	87.75	92.75	97.75	102.80	107.85	120.85	133.75	146.90		
65			53.65	59.60	64.55	69.55	74.55	79.55	84.55	89.55	94.55	99.55	104.60	109.65	123.05	135.95	149.30		
66			55.25	61.25	66.25	71.25	76.25	81.25	86.25	91.25	96.25	101.25	106.30	111.35	125.15	138.05	151.35		
67			56.85	62.85	67.85	72.85	77.85	82.85	87.85	92.85	97.85	102.85	107.9.00						

These pulleys are made to standard transmission specifications, pages 98 and 99.

Nominal Face Widths in Inches

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Double Belt Solid Double-Arm Cast-Iron Pulleys

Machine molded, bored accurately to shaft size, turned and balanced carefully.

List prices of double belt pulleys include both keyseat and set screws.

These pulleys are made to standard transmission specifications, pages 98 and 99.

Price List

Diam- eter, Inches	Nominal Face Widths in Inches										
	20	22	24	26	28	30	32	34	36	38	40
20	\$31.60	\$34.35	\$37.15	\$40.00	\$42.90						
21	33.10	35.95	38.85	41.90	44.90						
22	35.10	38.05	41.15	44.25	47.40	\$50.60					
23	37.10	40.25	43.45	46.70	50.00	53.35					
24	39.20	42.45	45.85	49.30	52.80	56.35					
25	41.25	44.75	48.30	51.90	55.55	59.25					
26	43.45	47.10	50.80	54.55	58.35	62.20					
27	45.65	49.50	53.35	57.30	61.20	65.20					
28	47.95	51.90	56.00	60.05	64.25	68.45	\$72.70				
29	50.15	54.35	58.50	62.80	67.10	71.45	75.85				
30	52.60	56.85	61.25	65.65	70.15	74.70	79.25	\$83.90			
31	54.90	59.40	63.90	68.55	73.15	77.85	82.60	87.40			
32	57.30	62.05	66.65	71.50	76.35	81.25	86.20	91.20			
33	59.60	64.45	69.40	74.35	79.40	84.45	89.55	94.70			
34	62.25	67.30	72.40	77.55	82.70	87.90	93.15	98.45	\$103.85		
35	65.00	70.20	75.45	80.75	86.15	91.55	97.00	102.50	108.10		
36	67.55	72.95	78.45	83.95	89.55	95.15	100.80	106.50	112.30		
37	70.30	75.90	81.50	87.25	92.95	98.70	104.50	110.35	116.30		
38	73.25	79.10	84.90	90.85	96.80	102.80	108.85	114.95	121.10	\$127.35	
39	75.35	80.95	87.10	93.05	99.10	105.20	111.35	117.55	123.80	130.10	
40	78.10	84.05	90.10	96.15	102.20	108.30	114.45	120.65	126.90	133.25	
41	80.65	86.80	92.95	99.10	105.25	111.40	117.65	123.95	130.30	136.70	
42	83.50	89.75	96.15	102.50	108.90	115.30	121.75	128.25	134.80	141.45	\$148.15
43	86.55	93.05	99.55	106.15	112.75	119.30	125.95	132.65	139.35	146.10	152.90
44	89.65	96.35	103.05	109.90	116.70	123.50	130.35	137.20	144.10	151.00	157.95
45	92.30	99.20	106.15	113.10	120.10	127.10	134.15	141.25	148.40	155.60	162.90
46	95.60	102.75	109.90	117.05	124.30	131.45	138.65	145.85	153.05	160.25	167.40
47	98.80	105.80	113.20	120.55	127.95	135.40	142.90	150.45	158.05	165.70	173.45
48	101.75	109.25	116.80	124.40	132.00	139.65	147.35	155.15	163.00	170.90	178.85
50		115.95	123.95	132.00	140.15	148.35	156.60	164.85	173.15	181.50	189.95
52		123.65	132.10	140.70	149.25	157.85	166.55	175.35	184.20	193.10	202.05
54		131.25	140.25	149.25	158.40	167.60	176.85	186.10	195.40	204.75	214.15
56		139.15	148.50	158.05	167.75	177.45	187.20	197.00	206.85	216.80	226.80
58		147.40	157.40	167.55	177.65	187.80	198.00	208.25	218.60	229.10	239.70
60		155.45	166.00	176.65	187.35	198.15	209.05	220.00	231.05	242.20	253.45
62		163.00	174.00	185.15	196.35	207.70	219.15	230.70	242.35	254.10	266.00
64		170.30	181.50	192.85	204.25	215.80	227.45	239.20	251.05	263.00	275.20
66		177.75	189.20	200.75	212.40	224.15	236.00	248.00	260.15	272.40	284.80
68		185.45	197.10	208.80	220.75	232.80	244.95	257.20	269.60	282.10	294.70
70		193.80	205.90	218.15	230.45	242.90	255.50	268.25	281.15	294.20	307.45
72		201.95	214.30	226.80	239.45	252.35	265.45	278.75	292.25	306.00	320.00
74			223.50	236.50	249.70	263.10	276.70	290.50	304.60	318.95	333.50
76			233.00	246.50	260.25	274.20	288.40	302.85	317.55	332.50	347.60
78			242.90	256.95	271.25	285.80	300.60	315.60	330.85	346.35	362.10
80			253.35	267.95	282.80	297.85	313.15	328.70	344.50	360.55	376.85
82			264.00	279.20	294.60	310.35	326.30	342.50	358.95	375.65	392.60
84			274.90	290.60	306.70	323.05	339.65	356.50	373.60	391.00	408.65
86			286.35	302.70	319.45	336.45	353.70	371.20	388.95	407.00	425.35
88			298.00	315.05	332.30	349.85	367.70	385.85	404.30	423.05	442.10
90			310.20	327.90	345.85	364.05	382.50	401.20	420.20	439.50	459.75
92			322.85	341.65	360.05	378.95	398.10	417.50	437.15	457.20	477.20
94			335.70	354.85	374.20	393.80	413.65	433.70	454.05	474.65	495.45
96			349.15	368.95	388.95	409.10	429.50	450.20	471.15	492.35	513.70
98				383.55	404.45	425.45	446.45	467.65	489.05	510.65	532.50
100				393.60	414.80	436.10	457.50	479.10	500.90	522.90	545.15
102				403.05	424.70	446.45	468.30	490.30	512.50	534.90	557.50
104				412.95	434.95	457.05	479.25	501.60	524.05	546.60	569.35
106				424.60	447.25	470.05	492.90	516.00	539.20	562.55	586.10
108				437.90	461.00	484.35	507.75	531.40	555.15	579.15	604.35
110				451.45	475.10	498.95	522.95	547.15	571.55	596.10	620.95
112				465.95	490.25	514.70	539.35	564.10	588.95	614.00	641.50
114				480.35	505.25	530.20	555.40	580.70	606.10	631.75	657.60
116				495.00	520.40	545.95	571.65	597.65	623.70	650.00	676.40
118				509.85	535.70	561.65	587.85	614.25	640.85	667.70	694.75
120				524.70	551.00	577.50	604.25	631.20	658.35	686.60	713.35

For horse power capacity see table, page 115.



Double Belt Split Double-Arm Cast-Iron Pulleys

Machine molded, bored accurately to shaft size, turned and balanced carefully.

List prices of double belt pulleys include both keyseat and set screws.

These pulleys are made to standard transmission specifications, pages 98 and 99.

Price List

Diameter, Inches	Nominal Face Widths in Inches										
	20	22	24	26	28	30	32	34	36	38	40
20	\$39.45	\$43.00	\$46.60	\$50.30	\$54.05						
21	40.95	44.60	48.30	52.20	56.05						
22	43.40	47.35	51.30	55.30	59.35	\$63.50					
23	45.55	49.55	53.60	57.75	61.95	66.25					
24	48.25	52.40	56.70	61.10	65.55	70.10					
25	50.30	54.70	59.15	63.70	68.30	73.00					
26	53.15	57.75	62.40	67.15	71.95	76.85					
27	55.35	60.15	64.95	69.90	74.80	79.85					
28	58.20	63.25	68.35	73.45	78.70	84.00	\$89.35				
29	60.50	65.70	70.85	76.20	81.55	87.00	91.50				
30	63.60	68.90	74.35	79.85	85.45	91.15	96.85	\$102.70			
31	65.90	71.45	77.00	82.75	88.45	94.30	100.20	106.20			
32	69.00	74.85	80.55	86.55	92.45	98.65	104.80	111.05			
33	71.30	77.25	83.30	89.40	95.60	101.85	108.15	114.55			
34	74.65	80.85	87.10	93.45	99.80	106.25	112.75	119.35	\$126.05		
35	77.40	83.75	90.15	96.65	103.25	109.90	116.60	123.40	130.30		
36	80.65	87.25	93.95	100.70	107.55	114.45	121.40	128.45	135.60		
37	83.40	90.20	97.00	104.00	110.95	118.00	125.10	132.30	139.60		
38	87.05	94.20	101.25	108.50	115.75	123.10	130.50	138.00	145.55	\$153.15	
39	89.20	96.05	103.45	110.70	118.05	125.50	133.00	140.60	148.25	155.90	
40	92.70	99.95	107.30	114.70	122.10	129.60	137.15	144.80	152.50	160.25	
41	95.25	102.70	110.15	117.65	125.15	132.70	140.35	148.10	155.90	163.70	
42	98.85	106.45	114.20	121.95	129.75	137.60	145.50	153.50	161.55	169.65	\$178.00
43	101.90	109.75	117.60	125.60	133.60	141.60	149.70	157.90	166.10	174.30	182.75
44	105.80	113.90	122.00	130.30	138.55	146.85	155.20	163.60	171.05	178.45	189.10
45	108.45	116.75	125.10	133.50	141.95	150.45	159.00	167.65	176.35	185.05	194.05
46	112.55	121.15	129.75	138.40	147.15	155.85	164.60	173.40	182.20	190.95	199.85
47	115.75	124.20	133.05	141.90	150.80	159.80	168.85	178.00	187.20	196.40	205.90
48	119.50	128.50	137.45	146.70	155.85	165.10	174.40	183.85	193.35	202.85	212.60
50		137.10	145.65	155.30	165.05	174.90	184.80	194.75	204.75	214.75	225.05
52		144.70	154.75	165.00	175.20	185.50	195.90	206.45	217.05	227.65	238.50
54		153.20	163.85	174.55	185.40	196.35	207.35	218.40	229.50	240.60	251.95
56		162.05	173.10	184.40	195.85	207.35	218.90	230.55	242.25	254.00	266.00
58		171.25	183.00	194.95	206.85	218.85	230.90	243.05	255.30	267.65	280.30
60		180.25	192.60	205.10	217.65	230.35	243.15	256.05	269.05	282.10	295.45
62		188.80	201.65	214.70	227.80	241.10	254.50	268.05	281.70	295.40	309.45
64		197.10	210.20	223.50	236.85	250.40	264.05	277.80	291.75	305.70	320.10
66		205.55	218.95	232.50	246.15	259.95	273.85	287.95	302.20	316.50	331.15
68		214.30	227.95	241.70	255.70	269.85	284.10	298.50	313.05	327.65	342.55
70		223.70	237.85	252.20	266.60	281.20	295.95	310.90	326.00	341.20	356.80
72		232.90	247.35	262.00	276.80	291.90	307.20	322.75	338.50	354.45	370.85
74			257.70	272.90	288.30	303.95	319.80	335.90	352.30	368.90	385.90
76			268.35	284.10	300.10	316.35	332.85	349.65	366.70	383.95	401.55
78			279.40	295.75	312.35	329.25	346.40	363.80	381.45	399.30	417.60
80			291.05	307.00	325.20	342.65	360.35	378.35	396.60	415.05	433.95
82			302.90	320.50	338.30	356.50	374.90	393.60	412.55	431.70	451.30
84			315.00	333.15	351.70	370.55	389.65	409.05	428.70	448.60	468.95
86			327.70	346.55	365.80	385.35	405.15	425.25	445.00	466.20	487.30
88			340.60	360.20	380.00	400.15	420.60	441.40	462.50	483.85	505.70
90			354.05	374.35	394.90	415.75	436.85	458.25	479.95	501.90	525.00
92			368.00	389.45	410.50	432.10	453.95	476.10	498.50	521.25	544.25
94			382.15	404.00	426.05	448.40	471.00	493.85	517.00	540.35	564.10
96			396.90	419.45	442.20	465.15	488.35	511.90	535.70	559.70	584.05
98				435.45	459.15	483.00	506.85	530.95	555.25	579.70	604.60
100				446.90	470.95	495.15	519.45	544.00	568.75	593.65	619.00
102				457.75	482.30	507.00	531.80	556.80	582.00	607.35	633.10
104				469.10	494.05	519.15	544.35	569.75	595.25	620.80	646.75
106				482.20	507.85	533.70	559.60	585.80	612.10	638.50	665.30
108				496.95	523.10	549.55	576.05	602.85	629.75	656.85	685.35
110				512.00	538.75	565.75	592.90	620.30	647.90	675.60	703.80
112				528.00	555.45	583.10	610.95	640.65	668.80	697.10	726.20
114				543.90	572.00	600.20	628.65	657.25	685.95	714.85	744.15
116				560.10	588.75	617.60	646.60	675.95	705.35	734.95	764.85
118				576.50	605.65	634.95	664.50	694.30	724.30	754.50	785.10
120				592.90	622.00	652.45	682.60	713.00	743.60	775.25	805.60

For horse power capacity see table, page 115.

TYPE A

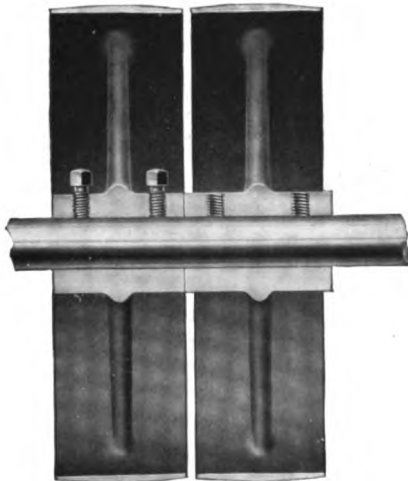


Fig. T-416

In these types of tight and loose pulleys the length of the hubs is slightly in excess of the face widths. Both ends of loose pulley hub and one end of tight pulley hub are faced.

Cast-Iron Pulleys

Tight and Loose

Type A, tight and loose pulleys, are standard and are furnished unless otherwise specified.

Types A and B, tight and loose pulleys, should always be made with crown faces. Phosphor-bronze bushings for loose pulleys, page 82. Cast-iron bushings for loose pulleys, page 114.

Additional Prices to be Added to List Prices of Two Standard Pulleys to Obtain List Price per Pair of Type A

Diameters, Inches	Nominal Face Widths in Inches						
	3 and 4	5 and 6	7 and 8	9 and 10	11 and 12	13 and 14	15 and 16
6 to 9	\$1.30	\$2.00	\$3.00	\$4.50			
10 to 15	1.50	2.30	3.40	5.00	\$7.00		
16 to 20	2.10	2.90	4.00	5.50	7.50		
21 to 30	3.30	4.10	5.20	6.80	9.10	\$12.50	
31 to 42	4.50	5.50	6.90	9.00	12.10	16.50	\$23.00
43 to 60	6.00	7.40	9.30	12.00	15.80	21.00	29.00

TYPE B

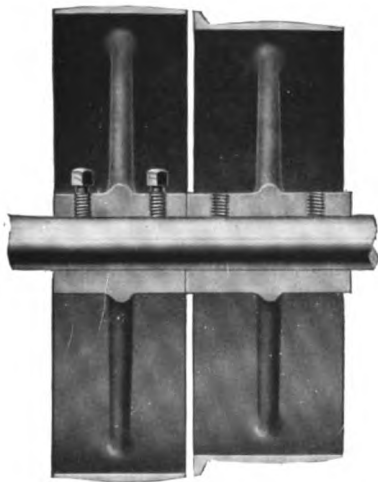


Fig. T-417

Loose pulleys fitted with ball bearings or any of the many self-lubricating bushings can be furnished.

Prices with full description will be submitted upon application.

Additional Prices to be Added to List Prices of Two Standard Pulleys to Obtain List Price per Pair of Type B Tight and Loose Pulleys

Diameters, Inches		Faces in Inches							
		3 and 4	5 and 6	7 and 8	9 and 10	11 and 12	13 and 14	15 and 16	
Tight	Loose								
6	5 1/2	\$2.50	\$3.20	\$4.20	\$5.70				
8	7 1/2	3.20	3.90	4.90	6.40				
10	9 1/2	3.45	4.25	5.35	6.95	\$8.95			
12	11 1/2	3.85	4.65	5.75	7.35	9.35			
14	13 1/2	4.35	5.15	6.25	7.85	9.85			
16	15 1/2	5.40	6.20	7.30	8.80	10.80			
18	17	5.90	6.70	7.80	9.30	11.30			
20	19	6.50	7.30	8.40	9.90	12.90			
22	21	8.40	9.20	10.30	11.90	14.20	\$17.60		
24	23	9.05	9.85	10.95	12.55	14.85	18.25		
26	25	9.85	10.65	11.75	13.35	15.65	19.05		
28	27	10.65	11.45	12.55	14.15	16.45	19.85		
30	29	11.50	12.30	13.40	15.00	17.30	20.70		
32	31	13.60	14.60	16.00	18.10	21.20	25.60	\$32.10	
34	33	14.50	15.50	16.90	19.00	22.10	26.50	33.00	
36	35	15.50	16.50	17.90	20.00	23.10	27.50	34.00	
38	37	16.55	17.55	18.95	21.05	24.15	28.55	35.05	
40	39	17.70	18.70	20.10	22.20	25.30	29.70	36.20	
42	41	18.90	19.90	21.30	23.40	26.50	30.90	37.40	
44	43	21.65	22.05	24.95	27.65	31.45	36.65	44.65	
46	45	22.95	23.35	26.25	28.95	32.75	37.95	45.95	
48	47	24.80	25.20	28.10	30.80	34.60	39.80	47.80	
52	50	27.10	27.50	30.30	33.10	36.90	42.10	50.10	
56	54	29.60	30.00	32.80	35.60	39.40	44.60	52.60	
60	58	32.20	32.60	35.60	38.20	42.00	45.20	55.20	

Cast-Iron Flange Pulleys

Outside Flanges

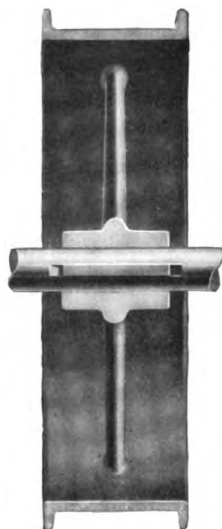


Fig. T-418

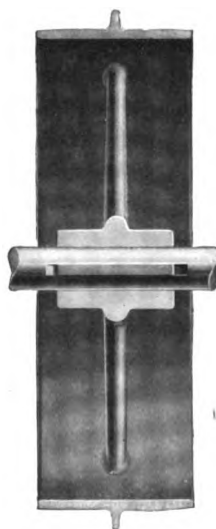


Fig. T-419

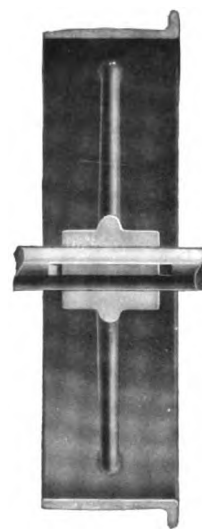


Fig. T-420

The faces of double flange pulleys are made slightly wider than the width of belt used. If an exact distance between flanges is required it should be specified in ordering. For center flange pulleys specify whether faces are to be crown or straight. Flanges are finished all over.

Additional Prices to be Added to List Prices of Standard Pulleys to Obtain List Prices of Double Flange Pulleys

Diameters, Inches	List Prices	Diameters, Inches	List Prices	Diameters, Inches	List Prices	Diameters, Inches	List Prices
6 to 7	\$2.40	26 to 27	\$13.05	46 to 47	\$33.85	84 to 86	\$84.75
8 " 9	3.10	28 " 29	14.70	48 " 50	37.60	88 " 90	90.10
10 " 11	3.90	30 " 31	16.40	52 " 54	42.25	92 " 94	95.40
12 " 13	4.70	32 " 33	18.20	56 " 58	47.20	96 " 98	100.85
14 " 15	5.65	34 " 35	20.05	60 " 62	52.25	100 " 102	106.00
16 " 17	6.60	36 " 37	21.95	64 " 66	57.50	104 " 106	111.80
18 " 19	7.60	38 " 39	24.10	68 " 70	62.85	108 " 110	117.15
20 " 21	8.80	40 " 41	26.35	72 " 74	68.30	112 " 114	122.35
22 " 23	10.15	42 " 43	28.75	76 " 78	73.75	116 " 118	127.35
24 " 25	11.50	44 " 45	31.30	80 " 82	79.30	120	132.05

For pulleys with one flange add one-half of the above list.

For pulleys with three flanges add one and one-half times the above list.

Internal or Return Flanged Rims

Additional Prices for Two Internal Flanges to be Added to List Prices of Pulleys

Diameters, Inches	List Prices	Diameters, Inches	List Prices
24 to 25	\$11.50	36 to 40	\$21.95
26 " 27	13.05	41 " 44	24.00
28 " 29	14.70	45 " 48	27.00
30 " 31	16.40	49 " 54	30.00
32 " 33	18.20	55 " 60	33.00
34 " 35	20.05	61 " 66	36.00

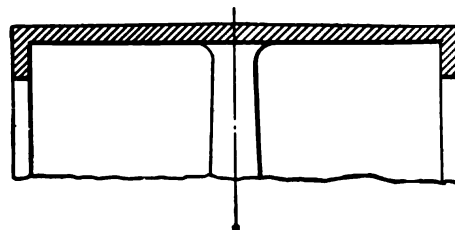


Fig. T-421



Fig. T-422

Cast-Iron Pulleys

Step cone pulleys are made to order on specification.

To obtain list prices of step cone pulleys of standard construction, consider each step as a separate pulley, using list of double belt pulleys and add to the total list as follows:

50 per cent for pulleys 3 inch face or wider.
33 $\frac{1}{3}$ per cent for pulleys 2 $\frac{1}{4}$ to 2 $\frac{3}{4}$ inches face (using list prices for 3 inch face).

25 per cent for pulleys 2 inch face and narrower (using list prices for 3 inch face).

Keyseating Pulleys and Rope Sheaves, Making Keys and Fitting Pulleys and Sheaves to Shafts

Price List

Shaft Sizes, Inches		Nominal Width of Pulley Face in Inches							
		3 to 6	7 to 9	10 to 12	13 to 16	17 to 20	21 to 24	25 to 30	31 to 36
1 $\frac{3}{16}$ to 2 $\frac{1}{8}$	Keyseating Pulley	\$.50	\$.60	\$.70					
	Price of Key	.20	.30	.35					
	Fitting	1.70	1.70	1.70					
2 $\frac{3}{16}$ to 2 $\frac{5}{8}$	Keyseating Pulley	.60	.70	.80	\$1.00	\$1.20			
	Price of Key	.30	.35	.40	.50	.60			
	Fitting	1.70	1.85	2.00	2.20	2.40			
2 $\frac{11}{16}$ to 3 $\frac{1}{8}$	Keyseating Pulley	.75	.85	1.20	1.70	2.35	\$3.00	\$3.70	\$4.15
	Price of Key	.35	.40	.50	.60	.70	1.00	1.20	1.40
	Fitting	1.85	2.00	2.20	2.40	2.70	3.00	3.50	4.00
3 $\frac{3}{16}$ to 3 $\frac{5}{8}$	Keyseating Pulley	.85	.95	1.30	1.80	2.45	3.10	3.80	4.25
	Price of Key	.50	.60	.70	.85	1.00	1.20	1.40	1.70
	Fitting	1.95	2.10	2.30	2.50	2.90	3.20	3.70	4.25
3 $\frac{11}{16}$ to 4 $\frac{1}{8}$	Keyseating Pulley	1.00	1.20	1.50	2.00	2.70	3.35	4.00	4.75
	Price of Key	.70	.80	.90	1.00	1.10	1.30	1.50	1.90
	Fitting	2.00	2.20	2.40	2.70	3.15	3.85	4.50	5.00
4 $\frac{3}{16}$ to 4 $\frac{5}{8}$	Keyseating Pulley	1.30	1.65	2.00	2.50	3.00	3.50	4.20	5.00
	Price of Key	.75	.85	.95	1.05	1.20	1.35	1.65	2.00
	Fitting	2.35	2.70	3.00	3.35	4.20	5.00	5.85	6.70
4 $\frac{11}{16}$ to 5 $\frac{3}{8}$	Keyseating Pulley	1.50	1.95	2.35	3.00	3.70	4.35	5.00	5.85
	Price of Key	.85	.95	1.05	1.20	1.35	1.50	1.70	2.00
	Fitting	3.00	3.35	3.85	4.35	5.00	5.85	6.70	7.50
5 $\frac{1}{16}$ to 6 $\frac{1}{4}$	Keyseating Pulley	2.00	2.55	3.05	3.80	4.60	5.35	6.25	7.35
	Price of Key	1.00	1.15	1.30	1.45	1.60	1.75	2.10	2.50
	Fitting	3.75	4.10	4.55	5.35	6.00	7.10	8.00	9.00
6 $\frac{5}{16}$ to 7 $\frac{1}{4}$	Keyseating Pulley	2.50	3.15	3.75	4.60	5.50	6.35	7.50	8.85
	Price of Key	1.25	1.50	1.75	2.00	2.35	2.70	3.15	3.65
	Fitting	4.75	5.10	5.55	6.60	7.25	8.60	9.50	10.50
7 $\frac{5}{16}$ to 8	Keyseating Pulley	3.00	3.75	4.45	5.40	6.40	7.35	8.75	10.35
	Price of Key	1.75	2.10	2.45	2.80	3.25	3.60	4.15	4.75
	Fitting	6.00	6.35	6.80	7.30	8.75	10.60	11.50	12.50

Keyseat Dimensions in Inches

Shaft Sizes, Inches	A	B	Shaft Sizes, Inches	A	B
1 $\frac{5}{16}$ to 1 $\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	3 $\frac{7}{16}$ to 3 $\frac{5}{8}$	$\frac{7}{8}$	$\frac{7}{16}$
1 $\frac{3}{16}$ " 1 $\frac{3}{8}$	$\frac{5}{16}$	$\frac{5}{32}$	3 $\frac{11}{16}$ " 3 $\frac{7}{8}$	$\frac{15}{16}$	$\frac{15}{32}$
1 $\frac{1}{16}$ " 1 $\frac{1}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{15}{16}$ " 4 $\frac{1}{8}$	1	$\frac{1}{2}$
1 $\frac{11}{16}$ " 1 $\frac{7}{8}$	$\frac{7}{16}$	$\frac{7}{32}$	4 $\frac{3}{16}$ " 4 $\frac{5}{8}$	$\frac{11}{8}$	$\frac{1}{2}$
1 $\frac{15}{16}$ " 2 $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{11}{16}$ " 5 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{2}$
2 $\frac{3}{16}$ " 2 $\frac{3}{8}$	$\frac{9}{16}$	$\frac{9}{32}$	5 $\frac{7}{16}$ " 5 $\frac{5}{8}$	$\frac{13}{8}$	$\frac{1}{2}$
2 $\frac{7}{16}$ " 2 $\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{16}$	5 $\frac{11}{16}$ " 6 $\frac{7}{8}$	$\frac{11}{2}$	$\frac{5}{8}$
2 $\frac{11}{16}$ " 2 $\frac{7}{8}$	$\frac{11}{16}$	$\frac{11}{32}$	6 $\frac{15}{16}$ " 7 $\frac{7}{8}$	$\frac{13}{4}$	$\frac{3}{4}$
2 $\frac{15}{16}$ " 3 $\frac{1}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	7 $\frac{15}{16}$ " 8 $\frac{7}{8}$	2	$\frac{3}{4}$
3 $\frac{3}{16}$ " 3 $\frac{3}{8}$	$\frac{13}{16}$	$\frac{13}{32}$			

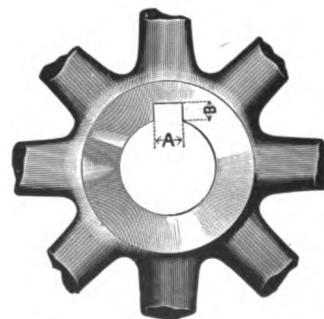


Fig. T-423

Cast-Iron Pulleys

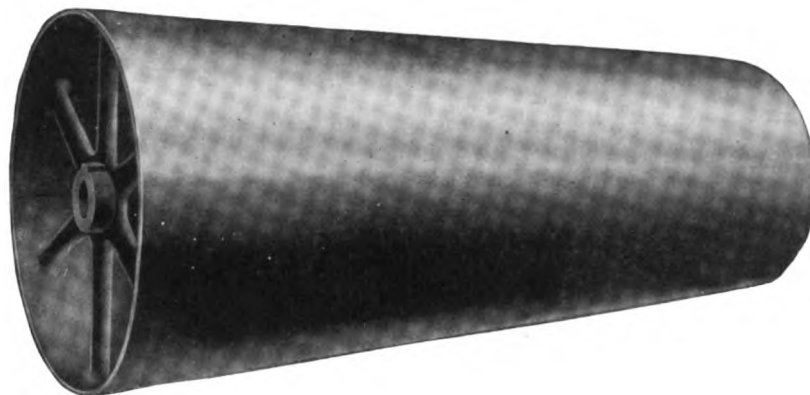


Fig. T-424

Taper cone cast-iron pulleys (Fig. T-424) are used extensively where variable speeds are required. They may be supplied in practically all sizes. Prices will be quoted upon application.

Cork Insert Pulleys



Fig. T-425

Cork possesses an extraordinarily high coefficient of friction and is almost indestructible when subjected to heat and wear under compression.

It is not affected by dust, oil, moisture or many of the conditions which seriously impair the efficiency of other material used for friction surfaces.

Cast-iron cork insert pulleys have shown exceptionally satisfactory results for dynamo or generator pulleys when the arc of contact between the belt and pulley has been small or when belts have become saturated with oil and have slipped. Also for drives operating in damp places and for main receiving pulleys where it has been desirable to run a slack belt.

Prices quoted upon application.

Universal Giant Cast-Iron Split Pulleys

With Standard Bores and Interchangeable Bushings

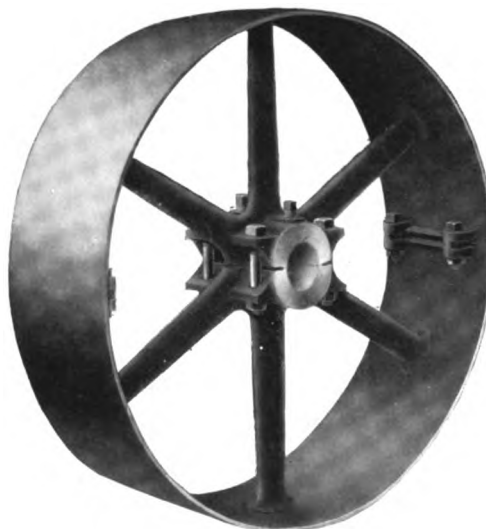


Fig. T-426

Universal Giant cast-iron split pulleys with bored and turned interchangeable cast-iron bushings are the highest development in the cast-iron pulley line. They can be used on any size shafting within limits of standard bores.

Perfect in every mechanical detail, symmetrical in appearance, strong, true running, and always retaining its original condition, the Universal Giant is a desirable pulley.

The rim, arms and hub are integral and of cast iron, a non-flexible material, which forms a rigid structure with practically no possibility of distortion or wearing out.

All pulleys of this type are made solid in the casting and split apart before finishing.

When bolted together the two halves intermember at rim fractures, presenting the appearance of a solid rim and insuring a permanent and perfectly round structure.

The bushings are cast whole and are bored, turned and shipped solid. They are easily split apart with an ordinary cold chisel.

The fractures at hub and bushings are cut back to provide for free clamping action and in addition to this perfect grip, two set screws are provided. These set screws run through the bushings to the shaft.

While it is not necessary to keyseat the Universal Giant pulley, we have provided for this feature if it is desired.

The slots in each bushing may be made the same width as standard size keyseat for the shaft that the bushing is bored to fit.

When it is desired to use a key, all that is necessary is to grind the connecting metal back even with the body of the bushing, as illustrated.



Fig. T-427

Universal Giant Cast-Iron Split Pulleys

With Standard Bores and Interchangeable Bushings

Price List

Diameters, Inches	Standard Bores, Inches	Nominal Face Widths in Inches								
		3	4	5	6	7	8	9	10	12
6	2 $\frac{7}{16}$	\$3.25	\$3.85	\$4.05	\$4.30	\$4.95	\$5.20			
7		3.40	4.00	4.25	4.50	5.15	5.40			
8		3.55	4.20	4.45	4.70	5.35	5.60	\$6.00	\$6.40	
9		3.70	4.35	4.60	4.90	5.60	5.90	6.25	6.65	
10	2 $\frac{15}{16}$	3.85	4.50	4.80	5.15	5.85	6.20	6.55	6.90	\$8.00
11		4.20	5.15	5.45	5.80	6.80	7.20	7.50	7.90	9.00
12		4.35	5.35	5.70	6.05	7.05	7.40	7.80	8.20	10.20
13			5.55	5.90	6.30	7.30	7.75	8.10	8.55	10.80
14			5.75	6.10	6.55	7.55	8.05	8.45	8.95	11.25
15			5.95	6.35	6.80	7.90	8.35	8.80	9.30	11.50
16			6.15	6.60	7.10	8.20	8.70	9.15	9.70	12.00
17			6.40	6.90	7.40	8.55	9.05	9.60	10.15	12.50
18			6.65	7.15	7.70	8.90	9.45	10.00	10.60	13.10
19			7.35	8.65	9.25	10.50	11.10	11.70	12.35	15.35
20			7.60	8.95	9.60	10.90	11.55	12.20	12.90	16.00
21			7.90	9.25	9.95	11.30	12.00	12.70	13.45	16.65
22			8.20	9.55	10.30	11.70	12.45	13.20	14.00	17.30
23			8.45	9.90	10.65	12.10	12.90	13.70	14.55	18.00
24			9.70	11.25	12.05	13.85	14.70	15.60	16.50	20.40
26	3 $\frac{7}{16}$		10.50	12.05	13.00	14.85	15.95	16.90	18.00	22.25
28			11.30	12.90	13.90	16.00	17.10	18.30	19.50	24.10
30			12.15	13.85	14.95	17.15	18.40	19.70	21.15	25.85
32			13.90	16.05	17.25	19.70	21.15	22.65	24.15	30.35
34			14.90	17.10	18.50	21.10	22.60	24.30	25.85	32.30
36			15.90	18.25	19.70	22.45	24.10	25.85	27.60	34.30
38	3 $\frac{15}{16}$		19.05	21.45	23.10	27.85	28.95	30.80	32.70	40.15
40			20.20	22.80	24.60	28.80	30.70	32.65	34.65	42.30
42			21.40	24.20	26.10	30.45	32.45	34.50	36.60	44.50
44			22.75	25.70	27.75	32.20	34.35	36.50	38.70	46.90
46			24.15	27.20	29.35	33.95	36.25	38.50	40.85	49.30
48			29.00	31.20	33.50	38.85	41.25	43.65	46.15	56.20
50				32.80	35.30	40.75	43.25	45.80	58.80	

For reducing bore each pulley requires two bushings, one at each end of hub, and these are included in the above list prices.

Additional bushings complete for one pulley will be supplied at list prices given in the following table.

Universal Giant Split Pulley Bushings

Price List



Fig. T-428

Bore of Bushing, Inches	Outside Diameter of Bushing in Inches			
	2 $\frac{7}{16}$	2 $\frac{15}{16}$	3 $\frac{7}{16}$	3 $\frac{15}{16}$
1 $\frac{7}{16}$	\$.50	\$.80	\$ 1.20	\$ 1.60
1 $\frac{11}{16}$	.60	.90	1.30	1.70
1 $\frac{15}{16}$	.70	1.00	1.40	1.80
2 $\frac{3}{16}$	.80	1.10	1.50	1.90
2 $\frac{7}{16}$		1.20	1.60	2.00
2 $\frac{11}{16}$		1.30	1.70	2.10
2 $\frac{15}{16}$			1.80	2.20
3 $\frac{3}{16}$			1.90	2.30
3 $\frac{7}{16}$				2.40
3 $\frac{11}{16}$				2.50

Loose Pulley Bushings

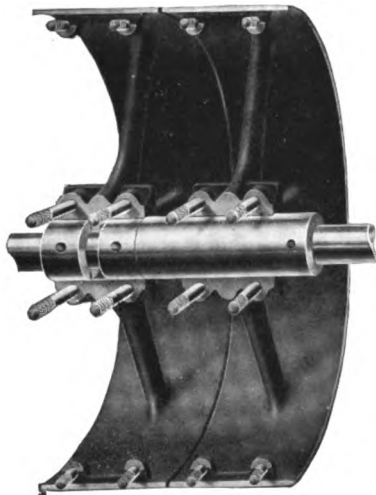


Fig. T-430

The bore of these bushings is reamed to size and counter-bored at center to hold an ample supply of oil or grease.

A patent continuous spiral oil groove is cut at each end and the machine is so set as to cut into oil reservoir at each side.

Each bushing is tapped for oil or grease cup.

Bushings must be long enough to have room for hub of pulley between tapped hole and other end.



Fig. T-431

These bushings are made for use with Universal Giant cast-iron split pulleys or any type of split stock pulley,

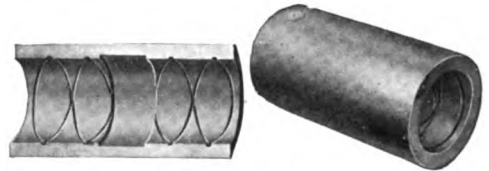


Fig. T-429

so that pulley may be utilized to run loose on shaft either as part of a pair of tight and loose pulleys or as an idler pulley. They are made of cast-iron, solid or split and accurately finished all over.

Price List of Solid Bushings

Outside Diameter, Inches	Bore, Inches	Length, Inches	List Price, Each	Outside Diameter, Inches	Bore, Inches	Length, Inches	List Price, Each
$2\frac{7}{16}$	$1\frac{3}{16}$ to $1\frac{1}{4}$	$4\frac{1}{4}$	\$2.80	$3\frac{1}{2}$	$1\frac{15}{16}$ to 2	$5\frac{1}{4}$	\$4.20
		$5\frac{1}{4}$	3.00			$6\frac{1}{4}$	4.50
		$6\frac{1}{4}$	3.20			$7\frac{1}{4}$	5.00
		$7\frac{1}{4}$	3.60			$8\frac{1}{4}$	5.60
		$8\frac{1}{4}$	4.00			$10\frac{1}{4}$	6.80
$2\frac{7}{16}$	$1\frac{7}{16}$ " $1\frac{1}{2}$	$4\frac{1}{4}$	2.70	$3\frac{1}{2}$	$2\frac{3}{16}$ " $2\frac{1}{4}$	$5\frac{1}{4}$	4.20
		$5\frac{1}{4}$	2.90			$6\frac{1}{4}$	4.50
		$6\frac{1}{4}$	3.05			$7\frac{1}{4}$	5.00
		$7\frac{1}{4}$	3.45			$8\frac{1}{4}$	5.60
		$8\frac{1}{4}$	3.80			$10\frac{1}{4}$	6.80
$2\frac{7}{16}$	$1\frac{11}{16}$ " $1\frac{3}{4}$	$4\frac{1}{4}$	2.70	$3\frac{1}{2}$	$2\frac{7}{16}$ " $2\frac{1}{2}$	$5\frac{1}{4}$	4.20
		$5\frac{1}{4}$	2.90			$6\frac{1}{4}$	4.50
		$6\frac{1}{4}$	3.05			$7\frac{1}{4}$	5.00
		$7\frac{1}{4}$	3.45			$8\frac{1}{4}$	5.60
		$8\frac{1}{4}$	3.80			$10\frac{1}{4}$	6.80
$2\frac{15}{16}$	$1\frac{15}{16}$ " 2	$10\frac{1}{4}$	4.60	$3\frac{1}{2}$	$2\frac{11}{16}$ " $2\frac{3}{4}$	$5\frac{1}{4}$	4.60
		$4\frac{1}{4}$	3.25			$6\frac{1}{4}$	4.95
		$5\frac{1}{4}$	3.50			$7\frac{1}{4}$	5.50
		$6\frac{1}{4}$	3.75			$8\frac{1}{4}$	6.15
		$7\frac{1}{4}$	4.00			$10\frac{1}{4}$	7.50
$2\frac{15}{16}$	$2\frac{3}{16}$ " $2\frac{1}{4}$	$8\frac{1}{4}$	4.50	$3\frac{15}{16}$	$2\frac{15}{16}$ " 3	$12\frac{1}{4}$	8.80
		$10\frac{1}{4}$	5.50			$5\frac{1}{4}$	6.25
		$12\frac{1}{4}$	6.50			$6\frac{1}{4}$	7.00
		$4\frac{1}{4}$	3.25			$7\frac{1}{4}$	7.75
		$5\frac{1}{4}$	3.50			$8\frac{1}{4}$	8.75
		$6\frac{1}{4}$	3.75			$10\frac{1}{4}$	10.25
		$7\frac{1}{4}$	4.00			$12\frac{1}{4}$	12.50
		$8\frac{1}{4}$	4.50				
		$10\frac{1}{4}$	5.50				
		$12\frac{1}{4}$	6.50				

To obtain list prices of split bushings add 25 per cent to list prices of solid.

Fig. T-430 and T-431 illustrate a pair of tight and loose pulleys made by using two Universal Giant split cast-iron pulleys and one of these loose pulley bushings.

These bushings are suitable for use with steel, wood or any type of split pulley.



Horse Power Capacity of Cast-Iron Pulleys

Standard double belt cast-iron pulleys are designed to safely transmit (with belt contact of 180 degrees) the following horse powers when operating at 100 revolutions per minute under steady load, being equivalent to an effective working tension of 70 pounds per inch of width.

Horse Power Capacity of Standard Double Belt Cast-Iron Pulleys at 100 Revolutions per Minute

Pulley Diameter, Inches	Width of Belt in Inches													
	3	4	5	6	8	10	12	14	16	18	20	24	30	36
6	1.00	1.33	1.67	2.00	2.67	3.33	4.00							
7	1.16	1.55	1.93	2.33	3.10	3.86	4.67							
8	1.33	1.77	2.22	2.67	3.55	4.44	5.33							
9	1.50	2.00	2.50	3.00	4.00	5.00	6.00							
10	1.67	2.23	2.79	3.33	4.44	5.58	6.67							
11	1.83	2.44	3.05	3.67	4.88	6.10	7.33							
12	2.00	2.67	3.33	4.00	5.33	6.67	8.00	9.33						
13	2.17	2.89	3.61	4.33	5.78	7.22	8.67	10.11						
14	2.33	3.12	3.90	4.67	6.23	7.80	9.33	10.88						
15	2.50	3.33	4.16	5.00	6.67	8.32	10.00	11.66						
16	2.67	3.55	4.44	5.33	7.11	8.88	10.67	12.43	14.22					
17	2.83	3.77	4.71	5.67	7.53	9.42	11.33	13.21	15.10					
18	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	16.00					
19	3.17	4.23	5.29	6.33	8.45	10.57	12.66	14.78	16.89	19.00				
20	3.33	4.45	5.56	6.67	8.89	11.12	13.33	15.55	17.78	20.00	22.25	26.67		
21	3.50	4.67	5.83	7.00	9.33	11.67	14.00	16.33	18.67	21.00	23.35	28.00		
22	3.67	4.88	6.10	7.33	9.77	12.22	14.67	17.10	19.56	22.00	24.40	29.33	36.67	
23	3.83	5.11	6.39	7.67	10.23	12.78	15.33	17.90	20.45	23.00	25.55	30.67	38.33	
24	4.00	5.33	6.66	8.00	10.67	13.33	16.00	18.67	21.33	24.00	26.65	32.00	40.00	
26	4.33	5.77	7.21	8.67	11.55	14.44	17.33	20.23	23.12	26.00	28.85	34.67	43.33	
28	4.67	6.23	7.79	9.33	12.45	15.58	18.67	21.78	24.90	28.00	31.15	37.33	46.66	
30	5.00	6.67	8.34	10.00	13.33	16.68	20.00	23.34	26.67	30.00	33.35	40.00	50.00	
32	5.33	7.10	8.87	10.67	14.22	17.75	21.33	24.89	28.45	32.00	35.50	42.67	53.33	
34	5.67	7.55	9.44	11.33	15.11	18.88	22.67	26.44	30.23	34.00	37.75	45.33	56.67	68.00
36	6.00	8.00	10.00	12.00	16.00	20.00	24.00	28.00	32.00	36.00	40.00	48.00	60.00	72.00
38		8.44	10.55	12.67	16.89	21.10	25.33	29.55	33.78	38.00	42.20	50.67	63.33	76.00
40		8.89	11.11	13.33	17.78	22.22	26.67	31.11	35.56	40.00	44.45	53.33	66.67	80.00
42		9.34	11.68	14.00	18.67	23.35	28.00	32.67	37.34	42.00	46.70	56.00	70.00	84.00
44		9.77	12.22	14.67	19.55	24.45	29.33	34.22	39.11	44.00	48.88	58.67	73.33	88.00
46		10.22	12.78	15.33	20.45	25.55	30.67	35.78	40.90	46.00	51.10	61.33	76.67	92.00
48		10.67	13.34	16.00	21.33	26.68	32.00	37.34	42.67	48.00	53.35	64.00	80.00	96.00
50		11.11	13.89	16.67	22.22	27.78	33.33	38.89	44.45	50.00	55.55	66.67	83.33	100.00
52		11.55	14.44	17.33	23.11	28.88	34.67	40.44	46.23	52.00	57.75	69.33	86.67	104.00
54		12.00	15.00	18.00	24.00	30.00	36.00	42.00	48.00	54.00	60.00	72.00	90.00	108.00
56		12.44	15.55	18.67	24.89	31.10	37.33	43.55	49.78	56.00	62.20	74.67	93.33	112.00
58		12.89	16.11	19.33	25.77	32.22	38.67	45.11	51.57	58.00	64.45	77.33	96.67	116.00
60		13.33	16.66	20.00	26.67	33.33	40.00	46.67	53.33	60.00	66.65	80.00	100.00	120.00
62				20.67	27.56	34.44	41.33	48.22	55.13	62.00	68.88	82.67	103.33	124.00
64				21.33	28.44	35.56	42.67	49.78	56.90	64.00	71.12	85.33	106.67	128.00
66				22.00	29.33	36.67	44.00	51.34	58.68	66.00	73.33	88.00	110.00	132.00
68				22.67	30.22	37.78	45.33	52.89	60.45	68.00	75.56	90.66	113.30	136.00
70				23.33	31.11	38.89	46.67	54.44	62.23	70.00	77.78	93.33	116.67	140.00
72				24.00	32.00	40.00	48.00	56.00	64.00	72.00	80.00	96.00	120.00	144.00
78				34.67	43.33	52.00	60.67	69.33	78.00	86.67	104.00	130.00	156.00	
84				37.33	46.67	56.00	65.33	74.67	84.00	93.33	112.00	140.00	168.00	
90				40.00	50.00	60.00	70.00	80.00	90.00	100.00	120.00	150.00	180.00	
96				42.67	53.33	64.00	74.67	85.33	96.00	106.67	128.00	160.00	192.00	
102				45.33	56.67	68.00	79.33	90.67	102.00	113.33	136.00	170.00	204.00	
108				48.00	60.00	72.00	84.00	96.00	108.00	120.00	144.00	180.00	216.00	
114				50.67	63.33	76.00	88.67	101.33	114.00	126.67	152.00	190.00	228.00	
120				53.33	66.67	80.00	89.33	106.67	120.00	133.33	160.00	200.00	240.00	

To determine the capacity of other standard design cast-iron pulleys described and listed in this catalog, multiply the horse powers given in above table by the following factors:

Single belt pulleys.....	.6
Extra heavy double belt pulleys.....	1.5
Double extra heavy double belt pulleys.....	2.25
Universal Giant split cast iron pulleys.....	.7

These factors are based on the following effective working tensions in belt:

Single belt pulleys.....	42 pounds per inch width
Extra heavy double belt pulleys.....	105 pounds per inch width
Double extra heavy double belt pulleys.....	157 pounds per inch width
Universal Giant split iron pulleys.....	49 pounds per inch width

Oneida Steel Split Pulleys

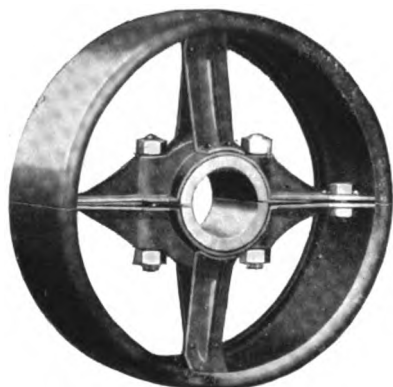


Fig. T-432

The construction of sizes 9 to 11-inch diameters inclusive is shown by Fig. T-432. Sizes 6, 7 and 8-inch diameters are similar, but are built without braces.

The construction of sizes 12 to 17-inch diameters inclusive is shown by Fig. T-433. This also covers 18, 19 and 20-inch diameters having faces 5 inches wide and less.



Fig. T-433

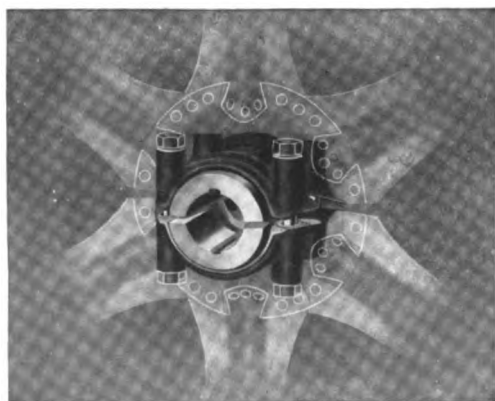


Fig. T-434

Sizes larger than 17-inches in diameter (with the exception of 18, 19 and 20-inch diameters in faces 5 inches wide and less) have the hubs reinforced with a malleable iron yoke (Fig. T-434).

These hubs when fitted with bushings and compressed to shaft, form a permanent fastening which grips uniformly over entire area of contact and insures stability of pulley on shaft and perfect running balance.

For standard bores, hub lengths, number of hubs and symbol of bushings, see table, page 120.

Oneida Steel Split Pulleys



Fig. T-435

In the construction of these pulleys beginning at 8-inch face in the smaller sizes, 10 and 12-inch face in the medium and larger sizes, one or more sets of arms are used as may be necessary to properly support the rims (Fig. T-436). The use of multiple sets of arms greatly increases the load carrying capacity and is of great advantage in supporting the rims, particularly of straight face pulleys on which shifting belts are operated. The rims of such pulleys have a direct support under center of belts.



Fig. T-436

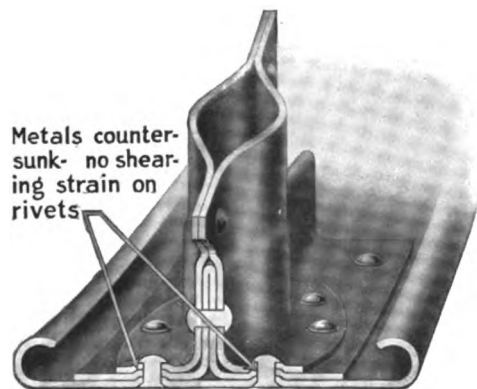


Fig. T-437

When two or more pieces of metal are riveted together in this pulley, the metal through which the rivet passes is countersunk making a male and female joint. This relieves the rivets of all lateral and shearing stress, as their only function is to hold the metals together. By this method of joining arms to rim, the rivets do not come in contact with the belt and cannot injure it. (Fig. T-437.)

Oneida Steel Split Pulleys



Fig. T-438

In sizes 40-inch diameters, 8-inch face and larger, auxiliary arms are provided (Fig. T-438). These give additional support to the rims at the split joints which are located close to the main arms. This obviates any possibility of vibration from centrifugal or centripetal forces.

Fig. T-439 illustrates a large Oneida Main Drive Pulley of which there are many in use, safely transmitting as great as 750 horse-power.

The satisfactory service given by pulleys of this size is the result of the principles embodied in their construction.

The use of multiple sets of arms and the addition of two-brace or auxiliary arms attached to each main arm, gives the necessary support to the rim.

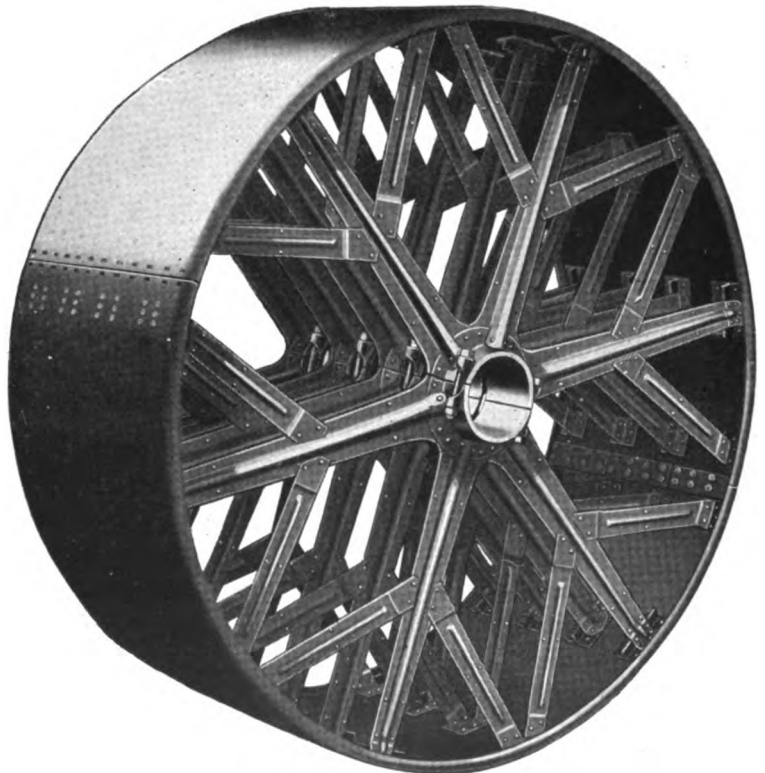


Fig. T-439

Oneida Steel Split Pulleys



Fig. T-440

Double flange pulleys (Fig. T-441) are of the same construction as the regular stock pulleys. They are strong, light, easily put on the shaft and thoroughly efficient.

They are made with double flanges only, and supplied at an additional price of 20 per cent above price of regular pulleys.

All regular crown face pulleys 8-inches in diameter and larger can be supplied with double flanges 1-inch high in face widths as follows:

Nominal Width in Inches..... 2 3 4 6 8
Actual Measurement between Flanges, Inches... 2¼ 3 4 6¼ 8¼

Straight face pulleys may be supplied with double flanges ½ inch high in the width faces as indicated and in diameters specified, and larger,

Actual Measurement between Flanges, Inches..... 9 10¾ 11¾ 13¼ 14¼ 15¾ 17¾ 19¾
Smallest Diameter..... 8 8 8 10 12 12 16 18



Fig. T-441

Approximate Weight Without Bushings

Diameter in Inches	Width of Faces in Inches										Diameter in Inches	Width of Face in Inches									
	2	3	4	5	6	8	10	12	14	16		3	4	5	6	8	10	12	14	16	
6	4	4	5	5	6	8	10	..	..	..	26	34	36	39	49	60	66	98	108	112
7	5	5	5	6	7	10	11	11	..	..	28	36	38	41	52	64	70	105	112	118
8	5	6	7	8	9	14	16	18	..	..	30	37	43	47	61	67	72	107	116	125
9	6	8	9	11	12	18	20	22	..	..	32	39	45	50	65	70	80	111	124	130
10	7	8	9	12	13	20	22	24	..	..	34	42	49	53	66	73	82	115	129	134
11	7	9	10	13	14	21	23	26	..	..	36	46	51	56	68	103	110	116	188	195
12	7	11	12	16	17	26	28	31	35	36	38	..	55	59	71	105	115	119	193	203	
13	8	12	13	17	18	27	30	33	36	39	40	..	57	62	73	113	122	128	211	218	
14	8	12	14	17	19	29	33	35	38	41	42	..	59	64	77	119	129	133	213	227	
15	..	14	15	19	20	32	36	47	51	52	44	..	61	66	79	121	130	139	222	232	
16	..	15	16	20	22	34	38	50	52	55	46	..	64	69	81	127	136	142	229	238	
17	..	15	17	22	23	36	40	51	54	59	48	..	66	70	85	130	139	147	234	246	
18	..	26	28	29	35	46	49	54	81	85	50	..	..	..	125	135	150	153	246	254
19	..	27	29	31	36	49	51	55	82	87	52	..	..	..	130	140	152	161	252	268
20	..	28	29	32	37	49	53	57	85	88	54	..	..	..	132	147	159	164	258	274
21	..	29	31	32	42	51	56	60	89	94	56	..	..	..	135	151	162	168	265	281
22	..	30	32	34	43	52	57	61	93	100	58	..	..	..	139	153	166	175	274	289
23	..	31	33	35	44	53	58	63	94	102	60	..	..	..	147	163	174	283	292	303
24	..	32	34	35	44	55	60	91	95	103	72	..	..	..	..	234	245	400	440	455

Oneida Steel Split Pulleys

Number and Symbols of Hubs

Symbols and Sizes of Bushings



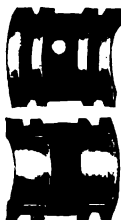
SF—Fig. T-442

2 1/8 inches Outside Diameter. 2 3/8 inches Long



F—Fig. T-443

2 1/8 inches Outside Diameter. 3 inches Long



G—Fig. T-444

3 1/8 inches Outside Diameter. 3 3/8 inches Long



H—Fig. T-445

3 1/8 inches Outside Diameter. 6 1/4 inches Long



I—Fig. T-446

4 1/8 inches Outside Diameter. 6 1/4 inches Long



J—Fig. T-447

6 1/8 inches Outside Diameter. 6 1/4 inches Long



K—Fig. T-448

8 1/8 inches Outside Diameter. 7 1/4 inches Long

Diameter Inches	Nominal Width of Face																			
	2	3	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
6	SF	F	F	F	F	2SF	2SF	2SF												
7	SF	F	F	F	F	2SF	2SF	2SF												
8	SF	G	G	G	G	GG	GG	GG												
9	SF	G	G	G	G	GG	GG	GG												
10	SF	G	G	G	G	GG	GG	GG												
11	SF	G	G	G	G	GG	GG	GG												
12	SF	G	G	G	G	GG	GG	GG	GG	GG										
13	SF	G	G	G	G	GG	GG	GG	GG	GG										
14	SF	G	G	G	G	GG	GG	GG	GG	GG										
15		G	G	G	G	GG	GG	GG	GG	GG										
16		G	G	G	G	GG	GG	GG	GG	GG										
17		G	G	G	G	GG	GG	GG	GG	GG										
18		G	G	G	G	H	H	H	GG	GG										
19		G	G	G	G	H	H	H	GG	GG										
20		G	G	G	G	H	H	H	GG	GG										
21		G	G	G	H	H	H	H	GG	GG										
22		G	G	G	H	H	H	H	GG	GG										
23		G	G	G	H	H	H	H	GG	GG										
24		G	G	G	H	H	H	GG	GG	GG	GG	GG								
26		G	G	H	H	H	GG	HH	HH	HH	HH									
28		G	G	H	H	H	GG	HH	HH	HH	HH	HH								
30		G	G	H	H	H	GG	HH	HH	HH	HH	HH	HH							
32		G	G	H	H	H	GG	HH	HH	HH	HH	HH	HH	HH						
34		G	H	H	H	H	GG	HH	HH	HH	HH	HH	HH	HH	HH					
36		G	H	H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II	II
38		H	H	H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II	II
40		H	H	H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II	II
42		H	H	H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II	II
44					H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
46					H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
48					H	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
50					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
52					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
54					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
56					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
58					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
60					I	I	I	I	II	II	II	II	II	II	II	II	II	II	II	II
62 to 70						I	I	II	II	II	II	II	II	II	II	II	II	II	II	II
72 to 96						ONE I, J or K HUB		TWO I, J or K HUBS		TWO I, J or K HUBS		THREE I, J or K HUBS		FOUR I or K HUBS						

SF = One separate SF Hub.
F = One separate F Hub.
G = One separate G Hub.
GG = Two separate G Hubs.
GGG = Three separate G Hubs.
H = One separate H Hub.
HH = Two separate H Hubs.
HHH = Three separate H Hubs.
I = One separate I Hub.
II = Two separate I Hubs.
III = Three separate I Hubs.
IIII = Four separate I Hubs.

Actual Face Widths for Pulleys

Made with S F Hubs. *N + 1/4 ins.
Made with F Hubs. *N + 1/4 ins.
Made with G, H, I, J and K Hubs. *N + 1 inch
*N = Nominal Face Width.



Oneida Steel Split Pulleys

Maximum and Minimum Limits of Bores for Various Symbol Bushings

Bushing Symbols	Outside Diameter, Inches	Minimum Bore, Inches	Maximum Bore Not K. S.	Maximum Bore Keyseated	Bushing Symbols	Outside Diameter, Inches	Minimum Bore, Inches	Maximum Bore Not K. S.	Maximum Bore Keyseated
*L	1 ¹ / ₁₆	1 ¹ / ₂	1 ³ / ₈	..	H	3 ¹ / ₂	1	3 ⁷ / ₁₆	3
*N	1 ¹ / ₁₆	1 ¹ / ₂	1 ⁷ / ₈	..	I	4 ⁷ / ₁₆	1 ⁷ / ₁₆	4 ⁵ / ₈	4
SF	2 ⁷ / ₁₆	1 ⁷ / ₈	2 ³ / ₈	2	J	6 ¹ / ₂	1 ⁷ / ₈	6 ⁷ / ₁₆	6
F	2 ⁷ / ₁₆	1 ⁷ / ₈	2 ³ / ₈	2	K	8 ¹ / ₂	2 ³ / ₈	8 ⁷ / ₁₆	8
G	3 ¹ / ₂	1 ⁷ / ₈	3 ⁷ / ₁₆	3					

* For National Steel Pulleys, page 124.

Standard Sizes of Keyseats and Keys

Shaft Sizes, Inches	2 ⁷ / ₁₆ -Inch Bushing Symbol SF and F		3 ¹ / ₂ -Inch Bushing Symbol G and H		4 ⁷ / ₁₆ -Inch Bushing Symbol I		6 ¹ / ₂ -Inch Bushing Symbol J		8 ¹ / ₂ -Inch Bushing Symbol K	
	Size Keyseat Inches	Size Key Inches	Size Keyseat Inches	Size Key Inches	Size Keyseat Inches	Size Key Inches	Size Keyseat Inches	Size Key Inches	Size Keyseat Inches	Size Key Inches
1 ¹⁵ / ₁₆ to 1 ¹ / ₈	1 ¹ / ₄ x ³ / ₃₂	1 ¹ / ₄ x ³ / ₁₆	..	..	..	..	..	..	..	..
1 ³ / ₁₆ " 1 ³ / ₈	3 ⁵ / ₈ x ¹ / ₈	3 ⁵ / ₈ x ¹ / ₄	..	..	..	..	..	..	..	..
1 ⁷ / ₁₆ " 1 ³ / ₈	3 ⁵ / ₈ x ¹ / ₈	3 ⁵ / ₈ x ¹ / ₄	..	..	..	..	..	..	..	..
1 ¹¹ / ₁₆ " 1 ¹⁵ / ₁₆	1 ¹ / ₂ x ³ / ₃₂	1 ¹ / ₂ x ³ / ₁₆	1 ¹ / ₂ x ³ / ₃₂	1 ¹ / ₂ x ⁵ / ₁₆	..	..	..	..	..	..
1 ¹³ / ₁₆ " 2 ¹ / ₈	1 ¹ / ₂ x ³ / ₁₆	1 ¹ / ₂ x ³ / ₈	1 ¹ / ₂ x ³ / ₁₆	1 ¹ / ₂ x ³ / ₈	..	..	..	..	..	..
2 ³ / ₁₆ " 2 ³ / ₈	..	..	9 ¹ / ₁₆ x ³ / ₁₆	9 ¹ / ₁₆ x ³ / ₈	..	..	..	..	..	..
2 ⁷ / ₁₆ " 2 ⁵ / ₈	..	..	5 ⁵ / ₈ x ¹ / ₃₂	5 ⁵ / ₈ x ⁷ / ₁₆	..	..	..	..	..	..
2 ¹¹ / ₁₆ " 2 ¹⁵ / ₁₆	..	..	3 ⁴ / ₄ x ¹ / ₈	3 ⁴ / ₄ x ⁵ / ₁₆	..	..	..	..	..	..
2 ¹¹ / ₁₆ " 3 ³ / ₈	..	..	..	..	3 ⁴ / ₄ x ¹ / ₄	3 ⁴ / ₄ x ¹ / ₂	..	..	..	..
3 ¹ / ₁₆ " 3 ⁵ / ₈	..	..	..	..	7 ⁸ / ₈ x ¹ / ₈	7 ⁸ / ₈ x ¹ / ₁₆	7 ⁸ / ₈ x ⁵ / ₁₆	7 ⁸ / ₈ x ⁵ / ₈	..	..
3 ¹¹ / ₁₆ " 3 ¹⁵ / ₁₆	..	..	..	..	7 ⁸ / ₈ x ¹ / ₈	7 ⁸ / ₈ x ¹ / ₁₆	7 ⁸ / ₈ x ⁵ / ₁₆	7 ⁸ / ₈ x ⁵ / ₈	..	..
3 ¹⁵ / ₁₆ " 4 ¹ / ₈	..	..	..	..	..	..	1 ¹ / ₄ x ¹¹ / ₃₂	1 ¹ / ₄ x ¹¹ / ₁₆	..	..
4 ³ / ₁₆ " 4 ⁷ / ₈	..	..	..	..	..	..	1 ¹ / ₈ x ³ / ₈	1 ¹ / ₈ x ³ / ₄	..	..
4 ¹³ / ₁₆ " 5 ¹ / ₄	..	..	..	..	..	..	1 ¹ / ₄ x ⁷ / ₁₆	1 ¹ / ₄ x ⁷ / ₈	..	..
5 ⁵ / ₁₆ " 5 ³ / ₄	..	..	..	..	..	..	1 ³ / ₈ x ³ / ₁₆	1 ³ / ₈ x ⁵ / ₈	1 ³ / ₈ x ⁷ / ₁₆	1 ³ / ₈ x ⁷ / ₈
5 ¹³ / ₁₆ " 6 ¹ / ₄	..	..	..	..	..	..	1 ¹ / ₂ x ¹ / ₈	1 ¹ / ₂ x ⁵ / ₈	1 ¹ / ₂ x ¹ / ₂	1 ¹ / ₂ x ¹
6 ⁵ / ₁₆ " 6 ³ / ₄	..	..	..	..	..	..	..	..	1 ¹ / ₂ x ¹ / ₂	1 ¹ / ₂ x ¹
6 ¹³ / ₁₆ " 7 ¹ / ₄	..	..	..	..	..	..	..	..	1 ¹ / ₂ x ¹ / ₂	1 ¹ / ₂ x ¹
7 ⁵ / ₁₆ " 7 ³ / ₄	..	..	..	..	..	..	..	..	1 ⁵ / ₈ x ¹ / ₈	1 ⁵ / ₈ x ⁵ / ₈
7 ¹³ / ₁₆ " 8	..	..	..	..	..	..	..	..	1 ³ / ₄ x ¹ / ₈	1 ³ / ₄ x ⁵ / ₈

Additional List Prices for Pulleys with Special Bores or Hubs

14 to 25 inch diameters, inclusive, fitted with I hubs, per hub.....	\$2.50
26 to 30 inch diameters, inclusive, in 3, 4, 5, 6 and 8 inch face widths, fitted with I hubs, per hub.....	3.00
26 to 30 inch diameters, inclusive, in face widths greater than 8 inches and all diameters over 30 inches. No extra charge for I hubs.	
17 to 60 inch diameters, inclusive, fitted with J hubs, per hub.....	5.00
17 to 60 inch diameters, inclusive, fitted with K hubs, per hub.....	7.50
62 inch diameters and larger, all face widths. No extra charge for J and K hubs.	
28 inch diameters and larger, fitted with O, 8-arm, high flange, malleable hubs, (4 ⁷ / ₁₆ -inch bore), per hub.....	12.00
28 to 96 inch diameters, fitted with P, 8-arm, high flange, malleable hubs, (8 ¹ / ₂ -inch bore)	15.00

Price List Extra Bushings

F, G and H bushings, each.....	\$.60
I bushings, each.....	1.20
J bushings, each.....	4.00
K bushings, each.....	6.00

Price List Keyseating Bushings

1 to 3 inch bore, net each.....	\$.50
3 ¹ / ₈ to 4 ⁷ / ₁₆ inch bore, net each.....	.75
Over 4 ⁷ / ₁₆ inch bore, net each.....	1.50



Oneida Steel Split Pulleys

Price List

Diameters, Inches	Nominal Width of Face in Inches									
	2	3	4	5	6	8	10	12	14	16
6	\$3.15	\$3.30	\$3.45	\$3.75	\$4.05	\$4.60	\$5.20	\$5.90		
7	3.22	3.38	3.60	3.90	4.20	4.80	5.40	6.10		
8	3.30	3.45	3.75	4.05	4.35	4.95	5.60	6.25		
9	3.38	3.60	3.90	4.20	4.50	5.10	5.75	6.35		
10	3.45	3.75	4.05	4.35	4.65	5.25	5.90	6.45		
11	3.65	3.90	4.20	4.50	4.80	5.40	6.00	6.90		
12	3.90	4.20	4.63	4.80	5.33	5.78	6.45	7.65	\$9.00	\$10.25
13	4.05	4.35	4.80	5.20	5.62	6.43	7.20	8.40	9.50	10.75
14	4.20	4.50	5.20	5.65	6.15	7.05	8.03	9.00	10.00	11.25
15		4.65	5.45	5.80	6.55	7.65	8.80	9.75	10.75	12.00
16		4.95	5.75	6.10	6.90	8.25	9.45	10.50	11.50	12.65
17		5.25	6.00	6.50	7.28	8.78	10.05	11.25	12.40	13.65
18		5.55	6.38	7.00	7.65	9.30	10.65	12.00	13.25	14.50
19		5.80	6.75	7.50	8.25	10.13	11.25	12.90	14.20	15.60
20		6.00	7.50	8.10	9.00	10.73	12.00	14.25	15.30	16.90
21		6.25	8.00	8.90	9.60	11.25	12.98	15.60	18.00	20.55
22		6.50	8.55	9.50	10.28	12.00	14.10	16.80	19.50	21.30
23		7.00	8.70	9.90	10.58	12.60	14.75	18.00	21.00	21.30
24		7.50	8.90	10.00	10.95	13.20	15.68	19.05	22.65	26.25
25			9.20	10.25	11.45	13.80	16.40	20.20	24.50	29.25
26			9.55	10.50	11.95	14.40	17.10	21.30	26.25	31.20
28			10.80	11.70	12.90	15.45	18.15	22.90	28.50	34.50
30			12.00	12.90	14.10	17.25	19.90	24.75	31.50	38.10
32			13.20	14.10	15.45	19.35	22.50	26.85	34.15	41.65
34			14.40	15.75	17.25	21.75	25.50	30.00	36.75	45.00
36			15.90	17.85	19.50	24.00	28.65	33.75	39.75	48.60
38			19.50	20.65	21.75	26.40	31.05	37.15	42.75	51.75
40			21.00	22.75	24.00	28.50	33.75	40.15	46.50	55.15
42			23.25	24.85	26.25	32.25	37.50	43.50	50.25	57.75
44					29.25	35.62	41.25	47.25	54.00	61.12
46					33.00	39.00	45.00	50.25	57.75	64.50
48					36.75	42.00	48.75	54.00	61.50	67.50
50					40.87	47.25	53.25	58.50	66.00	75.00
52					46.50	51.00	57.00	63.00	69.00	78.75
54					50.25	56.25	61.50	67.50	74.25	83.25
56					54.00	60.75	66.75	72.75	80.25	90.00
58					60.00	65.25	71.25	78.37	86.62	96.37
60					63.75	70.50	77.25	84.00	93.00	102.75
62						72.85	84.30	95.95	107.55	119.95
64						76.50	88.20	100.10	111.95	124.60
66						80.25	92.20	104.35	116.45	129.35
68						84.15	96.35	108.75	121.10	134.25
70						88.10	100.70	113.55	126.35	139.95
72						92.15	105.05	118.15	131.30	145.40
74						96.35	109.65	123.20	136.85	151.50
76						100.65	114.30	128.35	142.55	157.75
78						105.05	119.15	133.70	148.45	164.20
80						109.60	124.25	139.35	154.65	170.95
82						114.25	129.45	145.10	160.95	177.90
84						119.00	134.75	150.95	167.40	184.95
86						123.90	140.25	157.10	174.20	192.40
88						128.90	145.85	163.35	181.05	199.90
90							151.70	169.85	188.20	207.65
92							157.75	176.55	195.70	215.85
94							163.85	183.45	203.20	223.95
96							170.15	190.55	210.95	232.35
98							176.60	197.85	219.10	241.20
100							181.50	203.20	224.90	247.45
102							186.40	208.45	230.50	253.40
104							191.35	213.85	236.30	259.55
106							196.95	220.00	243.05	266.95
108							203.40	226.90	250.45	274.90
110							210.00	234.00	258.05	283.05
112							216.85	241.45	266.15	291.75
114								248.90	274.15	300.30
116								256.50	282.30	307.00
118								264.20	290.50	317.65
120								271.95	298.70	326.40
126								290.00	316.00	363.00
132								307.00	335.00	383.00
138								324.00	352.00	402.00
144								341.00	370.00	421.00

See page 120 for chart showing standard bores and number and symbols of hubs.
An extra charge is made for pulleys having bores larger than standard. See page 121.



Oneida Steel Split Pulleys

Price List—Continued

Diameters, Inches	Nominal Width of Face in Inches									
	18	20	22	24	26	28	30	32	34	36
24	\$29.92	\$34.50								
25	35.05	39.50								
26	38.15	41.40								
28	40.35	46.35								
30	45.00	49.50	\$55.50	\$61.50	\$67.50	\$74.25	\$81.67			
32	48.37	54.37	60.37	66.37	72.37	79.90	87.56	\$96.31		
34	51.75	57.45	63.75	69.75	75.00	82.50	90.75	99.82		
36	55.50	61.50	67.50	73.50	79.50	87.45	96.19	105.80	\$116.38	\$128.01
38	58.87	64.87	70.87	76.87	82.87	91.15	100.26	110.28	121.30	133.43
40	62.25	69.75	77.25	84.75	92.55	101.80	111.98	123.17	135.48	149.02
42	65.62	73.12	80.62	88.12	95.62	105.18	115.69	127.25	139.97	153.96
44	69.00	78.00	87.00	96.00	105.00	115.50	127.05	139.75	153.72	169.09
46	72.00	81.00	90.00	99.00	108.00	118.80	130.68	143.74	158.11	173.92
48	75.00	87.00	99.00	111.00	123.00	135.30	148.83	163.71	180.08	198.08
50	84.00	96.00	108.00	120.00	132.00	145.20	159.72	175.69	193.25	212.57
52	90.00	102.00	114.00	126.00	138.00	151.80	166.98	183.67	202.03	222.23
54	96.75	108.75	120.75	132.75	144.75	159.22	175.14	192.65	211.91	233.10
56	104.25	119.25	134.25	149.25	164.25	180.67	198.73	218.60	240.46	264.50
58	110.62	125.62	140.62	155.62	170.62	187.68	206.44	227.08	249.78	274.75
60	117.00	132.00	147.00	162.00	177.00	194.70	\$114.17	235.58	259.13	285.04
62	132.30	144.85	185.80	201.65	214.70	227.80	241.10	254.50	268.05	281.70
64	137.20	150.00	197.10	210.20	223.50	236.85	250.40	264.05	273.85	291.75
66	142.20	155.30	205.55	218.95	232.50	246.15	259.95	273.85	287.95	302.20
68	147.40	160.80	214.30	227.95	241.70	255.70	269.85	284.10	298.50	313.05
70	153.60	167.60	223.70	237.85	252.20	266.60	281.20	295.95	310.90	326.00
72	159.65	174.30	232.90	247.35	262.00	276.80	291.90	307.20	322.75	338.50
74	166.30	181.50	240.40	257.70	272.90	288.30	303.95	319.80	335.90	352.30
76	173.10	188.95	245.30	268.35	284.10	300.10	316.35	332.85	349.65	366.70
78	180.20	196.60	251.60	279.40	295.75	312.35	329.25	346.40	363.80	381.45
80	187.45	204.40	256.70	291.05	307.00	325.20	342.65	360.35	378.35	396.60
82	195.05	212.65	262.30	302.90	320.50	338.30	356.50	374.90	393.60	412.55
84	202.75	221.05	265.40	315.00	333.15	351.70	370.55	389.65	409.05	428.70
86	210.85	229.80	269.70	327.70	346.55	365.80	385.35	405.15	425.25	445.60
88	218.95	238.55	274.60	340.60	360.20	380.00	400.15	420.60	441.40	462.50
90	227.30	247.45	279.80	354.05	374.35	394.90	415.75	436.85	458.25	479.95
92	236.10	256.85	283.90	368.00	389.45	410.50	432.10	453.95	476.10	498.50
94	244.95	266.35	288.20	382.15	404.00	426.05	448.40	471.00	493.85	517.00
96	253.90	275.85	298.25	396.90	419.45	442.20	465.15	488.35	511.90	535.70
98	263.25	285.65	308.50	410.75	435.45	459.15	483.00	506.85	530.95	555.25
100	269.90	292.65	315.80	424.60	446.90	470.95	495.15	519.45	544.00	568.75
102	276.35	299.50	322.90	438.40	457.75	482.30	507.00	531.80	556.80	582.00
104	282.75	306.20	329.95	452.25	469.10	494.05	519.15	544.35	569.75	595.25
106	290.90	315.10	339.50	466.10	482.20	507.85	533.70	559.60	585.80	612.10
108	299.40	324.70	349.40	479.95	496.95	523.10	549.55	576.05	602.85	629.75
110	308.15	333.53	359.35	493.80	512.00	538.75	565.75	592.90	620.30	637.90
112	317.35	343.30	369.60	507.60	528.00	555.45	583.10	610.95	640.65	668.80
114	326.45	352.95	379.80	521.45	543.90	572.00	600.20	628.65	657.25	685.95
116	335.80	362.90	390.30	535.30	560.10	588.75	617.60	646.60	675.95	705.35
118	344.95	372.65	400.70	549.15	576.50	605.65	634.95	664.50	694.30	724.30
120	354.25	382.50	411.20	563.00	592.90	622.00	652.45	682.60	713.00	743.60
126	391.00	473.00	534.00	567.00	613.00	637.00	665.00	734.00	769.00	804.00
132	412.00	500.00	560.00	598.00	634.00	671.00	709.00	774.00	811.00	848.00
138	433.00	536.00	589.00	629.00	667.00	707.00	746.00	813.00	853.00	892.00
144	454.00	553.00	618.00	660.00	721.00	742.00	784.00	853.00	895.00	936.00

See page 120 for chart showing standard bores and number and symbols of hubs.

An extra charge is made for pulleys having bores larger than standard. See page 121.

National Steel Split Pulleys



Fig. T-449

Symbol L bushing for use with 3-inch pulleys has a standard bore of $1\frac{7}{16}$ inches.

Symbol N bushings for use with 4 and 5-inch pulleys have a standard bore of $1\frac{15}{16}$ inches.

These pulleys are made in 3, 4 and 5-inch diameters and are suitable for use on small motors, wood or metal working machinery, and for any service that requires the use of a split pulley.

With each pulley a socket wrench is supplied for tightening compression bolts.

Interchangeable metal bushings are furnished with these pulleys for all standard shaft sizes less than standard bores.

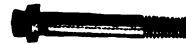
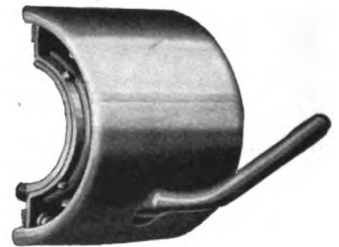
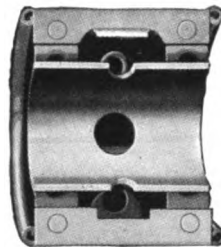


Fig. T-449A

Price List

3-Inch Diameters		4-Inch Diameters		5-Inch Diameters	
Faces, Inches	List Prices	Faces, Inches	List Prices	Faces, Inches	List Prices
3	\$2.40	3	\$2.52	3	\$2.64
4	2.52	4	2.64	4	2.75
5	2.68	5	2.75	5	2.87
6	3.00	6	3.10	6	3.25

List Prices, Extra L and N Bushings, each, \$.30.

Loose Sleeves for Use With Oneida Steel Split Pulleys

These sleeves are cast in one piece, bored, turned accurately to size and split. When clamped together in pulley the two halves intermember at fractures and maintain true inner and outer diameters.

Price List

Outside Diameter of Bushings, Inches	Bores of Bushings, Inches	Length of Bushings, Inches	List Prices	Outside Diameter of Bushings, Inches	Bores of Bushings, Inches	Length of Bushings, Inches	List Prices
$2\frac{7}{16}$	1 to $1\frac{3}{4}$	$4\frac{1}{2}$	\$3.45	$3\frac{1}{2}$	$1\frac{3}{16}$ to $2\frac{3}{4}$	$4\frac{1}{2}$	\$4.30
		$5\frac{1}{2}$	3.85			$5\frac{1}{2}$	4.95
		$6\frac{1}{2}$	4.30			$6\frac{1}{2}$	5.50
		$7\frac{1}{2}$	4.75			$7\frac{1}{2}$	6.50
		$8\frac{1}{2}$	3.85			$8\frac{1}{2}$	8.30
$2\frac{15}{16}$	1 to $2\frac{3}{16}$	$4\frac{1}{2}$	3.85	$4\frac{7}{16}$	$1\frac{15}{16}$ to $3\frac{7}{16}$	$10\frac{1}{2}$	9.50
		$5\frac{1}{2}$	4.50			$12\frac{1}{2}$	10.70
		$6\frac{1}{2}$	5.00			$6\frac{1}{2}$	8.00
		$7\frac{1}{2}$	5.50			$7\frac{1}{2}$	9.00
		$8\frac{1}{2}$	6.50			$9\frac{1}{2}$	10.90
		$10\frac{1}{2}$	7.00			$10\frac{1}{2}$	12.20
		$12\frac{1}{2}$	8.00			$12\frac{1}{2}$	14.50



Fig. T-450

Bushings should be $1\frac{1}{2}$ inch longer than nominal face width of pulley

Wood Split Pulleys

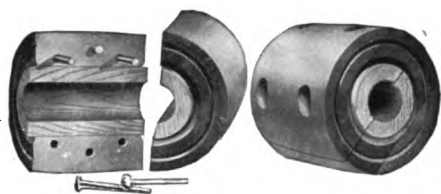


Fig. T-451

These pulleys are manufactured from carefully selected kiln dried lumber, thoroughly glued and nailed together. They are then bored to size and turned concentric with bore.

The 3, 4, 5 and 6-inch diameters (Fig. T-451) are of the two-piece block type. When placed on shaft the halves are drawn together by heavy slot head bolts, the nuts of which are securely anchored in one half of pulley.

The 7, 8, 9 and 10 inch diameters (Fig. T-452) are of the three piece type. When placed on shaft, parts A and B are drawn together by nuts on bolts, the heads of which are anchored in part A. Part C is then secured to place by slot head bolts, the nuts of which are anchored in part B.

In this type of construction the clamping bolts are most accessible. The joint between parts B and C is of a profile that prevents any movement of part C when the pulley is in service.

In 11-inch diameters and larger (Fig. T-453) parallel arms and webs are built into the rim with rim segments. The webs form an additional tie between rim and arms and support the rim at right angles to parallel arms.

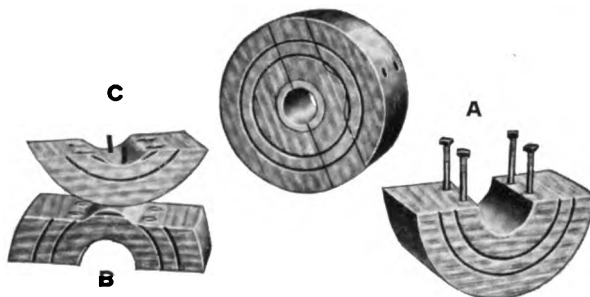


Fig. T-452

This built-in web and arm construction offers complete resistance to heavy belt stresses at right angles to the arms which tend to crush the arch and spread the pulley at rim joints. Not only do the built-in arms act as tie rods but the webs shorten and stiffen the arch so that intermediate arms are unnecessary. This construction makes bolts most accessible and allows sufficient springing action in arms to properly clamp the pulley to the shaft.

Pulleys 10 inches in diameter and smaller are coated with varnish. The larger sizes have the arms and inside of rims painted and the outside of rims coated with varnish.

Wood Split Pulleys are bored to a standard size and with a complete system of interchangeable two-piece bushings (Fig. T-454) will fit any size shaft within limit of bores. One complete set of bushings is furnished with each pulley.



Fig. T-453



Fig. T-454

Diameter of Pulley, Inches	Standard Bore of Pulley, Inches	Symbol of Bushing
3	$1 \frac{7}{16}$	E
4 and 5	$1 \frac{15}{16}$	D
6 and 7	$2 \frac{15}{16}$	C
8 and larger	$3 \frac{1}{2}$	A



Wood Split Pulleys

Price List

Diameters, Inches	Nominal Face Widths in Inches												
	3	4	5	6	8	10	12	14	16	18	20	22	24
4	\$2.80	\$2.90	\$3.10	\$3.30	\$3.70	\$4.10	\$4.50	.....	.....	.....	.....	.....	.....
5	2.85	2.95	3.20	3.40	3.85	4.30	4.75	.....	.....	.....	.....	.....	.....
6	2.90	3.00	3.25	3.50	4.00	4.50	5.00	.....	.....	.....	.....	.....	.....
7	2.95	3.05	3.35	3.60	4.15	4.70	5.25	\$5.80	.....	.....	.....	.....	.....
8	3.00	3.10	3.40	3.70	4.30	4.90	5.50	6.10	.....	.....	.....	.....	.....
9	3.10	3.25	3.60	3.90	4.55	5.20	5.85	6.50	.....	.....	.....	.....	.....
10	3.25	3.40	3.75	4.10	4.80	5.50	6.20	6.90	\$7.60	.....	.....	.....	.....
11	3.50	3.70	4.10	4.50	5.30	6.10	6.90	7.70	8.50	.....	.....	.....	.....
12	3.75	4.00	4.45	4.90	5.80	6.70	7.60	8.50	9.40	\$10.30	.....	.....	.....
13	4.30	4.80	5.30	6.30	7.30	8.30	9.30	10.30	11.30	.....	.....	.....
14	4.60	5.15	5.70	6.80	7.90	9.00	10.10	11.20	12.30	\$13.40	.....	.....
15	4.90	5.50	6.10	7.30	8.50	9.70	10.90	12.10	13.30	14.50	.....	.....
16	5.20	5.85	6.50	7.80	9.10	10.40	11.70	13.00	14.30	15.60	\$16.90	.....
17	5.50	6.20	6.90	8.30	9.70	11.10	12.50	13.90	15.30	16.70	18.10	.....
18	5.80	6.55	7.30	8.80	10.30	11.80	13.30	14.80	16.30	17.80	19.30	\$20.80
19	6.10	6.90	7.70	9.30	10.90	12.50	14.10	15.70	17.30	18.90	20.50	22.10
20	6.40	7.25	8.10	9.80	11.50	13.20	14.90	16.60	18.30	20.00	21.70	23.40
22	7.00	7.95	8.90	10.80	12.70	14.60	16.50	18.40	20.30	22.20	24.10	26.00
24	7.70	8.80	9.90	12.10	14.30	16.50	18.70	20.90	23.10	25.30	27.50	29.70
26	8.40	9.65	10.90	13.40	15.90	18.40	20.90	23.40	25.90	28.40	30.90	33.40
28	9.10	10.50	11.90	14.70	17.50	20.30	23.10	25.90	28.70	31.50	34.30	37.10
30	9.80	11.35	12.90	16.00	19.10	22.20	25.30	28.40	31.50	34.60	37.70	40.80
32	10.50	12.20	13.90	17.30	20.70	24.10	27.50	30.90	34.30	37.70	41.10	44.50
34	11.30	13.15	15.00	18.70	22.40	26.10	29.80	33.50	37.20	40.90	44.60	48.30
36	12.10	14.10	16.10	20.10	24.10	28.10	32.10	36.10	40.10	44.10	48.10	52.10
38	17.20	21.50	25.80	30.10	34.40	38.70	43.00	47.30	51.60	55.90
40	18.30	22.90	27.50	32.10	36.70	41.30	45.90	50.50	55.10	59.70
42	19.60	24.60	29.60	34.60	39.60	44.60	49.60	54.60	59.60	64.60
44	20.90	26.30	31.70	37.10	42.50	47.90	53.30	58.70	64.10	69.50
46	22.30	28.10	33.90	39.70	45.50	51.30	57.10	62.90	68.70	74.50
48	23.80	30.00	36.20	42.40	48.60	54.80	61.00	67.20	73.40	79.60
50	25.40	32.00	38.60	45.20	51.80	58.40	65.00	71.60	78.20	84.80
52	27.10	34.10	41.10	48.10	55.10	62.10	69.10	76.10	83.10	90.10
54	28.90	36.30	43.70	51.10	58.50	65.90	73.30	80.70	88.10	95.50
56	30.80	38.60	46.40	54.20	62.00	69.80	77.60	85.40	93.20	101.00
58	32.80	41.00	49.20	57.40	65.60	73.80	82.00	90.20	98.40	106.60
60	34.90	43.50	52.10	60.70	69.30	77.90	86.50	95.10	103.70	112.30
62	37.10	46.10	55.10	64.10	73.10	82.10	91.10	100.10	109.10	118.10
64	39.40	48.80	58.20	67.60	77.00	86.40	95.80	105.20	114.60	124.00
66	41.90	51.80	61.70	71.60	81.50	91.40	101.30	111.20	121.10	131.00
68	44.50	54.90	65.30	75.70	86.10	96.50	106.90	117.30	127.70	138.10
70	47.20	58.10	69.00	79.90	90.80	101.70	112.60	123.50	134.40	145.30
72	50.00	61.40	72.80	84.20	95.60	107.00	118.40	129.80	141.20	152.60
74	71.90	84.80	97.70	110.60	123.50	136.40	149.30	162.20	175.10
76	83.30	97.70	112.10	126.50	140.90	155.30	169.70	184.10	198.50
78	95.60	111.50	127.40	143.30	159.20	175.10	191.00	206.90	222.80
80	109.00	126.50	144.00	161.50	179.00	196.50	214.00	231.50	249.00
82	123.70	143.00	162.30	181.60	200.90	220.20	239.50	258.80	278.10
84	139.30	160.40	181.50	202.60	223.70	244.80	265.90	287.00	308.10
86	155.80	178.70	201.60	224.50	247.40	270.30	293.20	316.10	339.00
88	173.20	197.90	222.60	247.30	272.00	296.70	321.40	346.10	370.80

Approximate Shipping Weights

Diameters, Inches	Nominal Face Widths in Inches								Diameters, Inches	Nominal Face Widths in Inches							
	3	4	5	6	8	10	12	16		3	4	5	6	8	10	12	16
6	2	3	3	4	5				34	28	34	43	58	76	84	113	
8	3	4 ¹ / ₂	5 ¹ / ₂	6 ¹ / ₂	9	10 ¹ / ₂			36	30	38	46	62	79	89	115	
10	5	7 ¹ / ₂	9	11	14	17	20		38			54	71	89	102	139	
12	6	7	8	10	13	16	19		40			65	86	109	125	164	
14	7	8	11	13	18	22	26		42			68	90	118	128	183	
16	8	10	12	15	21	25	30	10	44			71	94	122	135	190	
18	10	12	15	18	24	30	35	45	46			76	101	125	144	191	
20	11	13	17	20	27	34	38	60	48			78	104	132	148	203	
22		14	19	22	29	35	41	67	50				108	144	161	234	
24		17	22	26	38	46	52	70	52				113	148	170	241	
26		18	23	28	38	52	56	76	54				119	153	176	250	
28		20	25	30	41	53	61	81	60				142	187	210	263	
30		25	32	38	51	65	72	100	72				221	233	306	425	
32		26	33	40	55	73	82	111									

Paper Mill Type Wood Pulleys

Paper mill type wood pulleys are of the same general construction as the regular wood split pulleys except that they are much heavier and have rim segments bolted together in addition to being nailed and glued. They are finished with several coats of lead and oil which thoroughly saturate the wood, preventing absorption of moisture.

They are made to order, bored to fit the shaft, and keyseated.

This type of pulley is suitable for heavy drives such as crushers, air compressors, generators, etc.

To obtain list prices, add 20 per cent to list prices of regular wood split pulleys.

Wood Pulley Extras

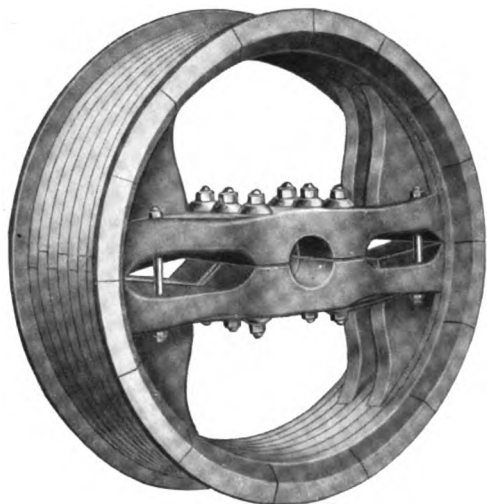


Fig. T-455



Fig. T-456

For flange pulleys, add 20 per cent to regular list price for a single flange, 25 per cent for a double flange, and 30 per cent for a triple flange. Fig. T-455 illustrates a double flange pulley.

For step cone pulleys (Fig. T-456), treat each step as a separate pulley, combine the list prices and add 50 per cent. For taper cone pulleys (Fig. T-457), use list price for largest diameter and full width of face, and add 25 per cent.

For fractional diameters or odd-inch diameters not listed, use list price of pulley of next larger diameter.

For face widths in fractions of an inch or in odd inches not listed, use the list price of the next wider face.

For pulleys with offset hubs of standard length, add 10 per cent to regular list price.

For boring pulleys to fit shaft when bore is less than standard, or for boring pulleys larger than standard but smaller than bores shown in the following table, add 10 per cent to regular list price.

Special Bores

	Add to List					
	15 per cent	20 per cent	25 per cent	35 per cent	50 per cent	65 per cent
Under 12-in. diameter	$3\frac{9}{16}$ to 4 inches	$4\frac{1}{16}$ to 5 inches	$5\frac{1}{16}$ to 6 inches			
From 12-in. to 48-in. diameter	$4\frac{1}{16}$ to $4\frac{1}{2}$ inches	$4\frac{9}{16}$ to 6 inches	$6\frac{1}{16}$ to $7\frac{1}{2}$ inches	$7\frac{9}{16}$ to 10 inches		
From 49-in. to 72-in. diameter	$5\frac{1}{16}$ to 6 inches	$6\frac{1}{16}$ to $7\frac{1}{2}$ inches	$7\frac{9}{16}$ to $9\frac{1}{2}$ inches	$9\frac{9}{16}$ to 12 inches	$12\frac{1}{16}$ to 15 inches	$15\frac{1}{16}$ to 18 inches
From 73-in. to 96-in. diameter	$7\frac{1}{16}$ to 8 inches	$8\frac{1}{16}$ to 10 inches	$10\frac{1}{16}$ to 12 inches	$12\frac{1}{16}$ to 15 inches	$15\frac{1}{16}$ to 18 inches	$18\frac{1}{16}$ to 21 inches
From 97-in. to 120-in. diameter	$9\frac{1}{16}$ to 10 inches	$10\frac{1}{16}$ to $12\frac{1}{2}$ ins.	$12\frac{9}{16}$ to 15 inches	$15\frac{1}{16}$ to 18 inches	$18\frac{1}{16}$ to 21 inches	$21\frac{1}{16}$ to 25 inches

Where it is required that wood pulleys run loose on shaft, as in a pair of tight and loose pulleys, they may be fitted with solid or split cast-iron bushings, (Fig. T-429 and T-450).

Pulleys made to order and keyseated are bored to shaft size and the keyway is cut in the solid wood of the hub. Separate complete wood bushings (Symbols E, D, C and A) can be furnished in lengths greater than 10 inches at a list price of \$.05 per inch, in lengths 10 inches or less at a list price of \$.50.

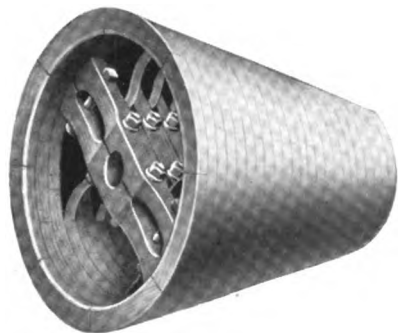


Fig. T-457

Keyseating Hubs

Shaft Sizes, Inches	Nominal Face Widths in Inches			
	12 or Less	13 to 16	17 to 20	21 to 24
3 or less	\$1.25	\$1.75	\$2.35	\$3.00
$3\frac{1}{16}$ to $3\frac{1}{2}$	1.30	1.80	2.45	3.10
$3\frac{9}{16}$ to 4	1.50	2.00	2.70	3.35
$4\frac{1}{16}$ to $4\frac{1}{2}$	2.00	2.50	3.00	3.50
$4\frac{9}{16}$ to 5	2.35	3.00	3.70	4.35
$5\frac{1}{16}$ to 6	3.00	3.75	4.50	5.35
$6\frac{1}{16}$ to 7	3.75	4.50	5.25	6.10

These pulleys are turned concentric with bore and carefully balanced which insures true running.

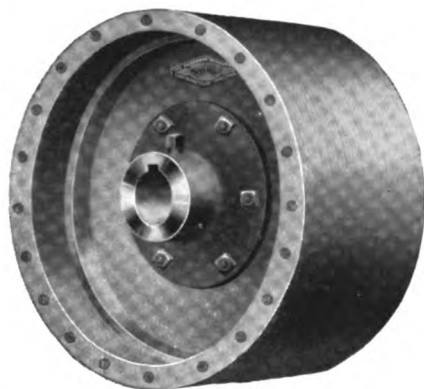


Fig. T-458

Paper Pulleys

Paper pulleys show an extremely high coefficient of friction, transmit power with uniformity and are constructed to resist heavy shock loads.

They are, therefore, especially adapted for use on all types of high speed machinery and are used extensively where an extremely high belt efficiency is necessary for successful operation.

These pulleys are well proportioned and neat in finish, turned inside and out, and are perfectly balanced.

All standard patterns have hubs central and in length equal to two thirds of the face width. It is necessary to make exception to this rule when the widths of the faces are unusually narrow for the given diameters, and in the smaller sizes of motor pulleys which are made with hubs the full width of the face.

Price List

Diameters Inches	Nominal Face Widths in Inches															
	2	3	4	5	6	7	8	9	10	11	12	14	16	18	20	
2	\$2.00	\$2.05	\$2.10	\$2.20	\$2.35											
2½	2.05	2.10	2.15	2.25	2.40											
3	2.10	2.15	2.20	2.30	2.45	\$2.65										
3½	2.15	2.20	2.25	2.35	2.50	2.70	\$2.95									
4	2.20	2.25	2.30	2.40	2.55	2.75	3.00									
4½	2.25	2.30	2.35	2.45	2.60	2.80	3.05	\$3.35								
5	2.30	2.35	2.40	2.50	2.65	2.85	3.10	3.40	\$3.75							
5½	2.35	2.40	2.45	2.55	2.70	2.90	3.15	3.45	3.80							
6		3.05	3.15	3.25	3.45	3.70	4.00	4.40	4.80	\$5.30						
7		3.20	3.25	3.40	3.55	3.80	4.15	4.50	4.95	5.45	\$6.00					
8		3.40	3.45	3.55	3.75	4.00	4.30	4.70	5.10	5.60	6.20					
9		3.55	3.65	3.75	3.95	4.20	4.50	4.90	5.30	5.80	6.40					
10		3.75	3.80	3.95	4.15	4.40	4.70	5.05	5.50	6.00	6.55					
11		4.00	4.15	4.30	4.55	4.90	5.25	5.70	6.20	6.75	7.40					
12		4.25	4.45	4.70	5.00	5.40	5.80	6.30	6.90	7.50	8.20					
13		4.50	4.75	5.05	5.45	5.90	6.40	6.95	7.55	8.25	9.00					
14		4.75	5.00	5.30	5.70	6.10	6.60	7.20	7.80	8.50	9.25					
15		5.00	5.30	5.70	6.10	6.60	7.20	7.80	8.50	9.25	10.05					
16		5.30	5.70	6.10	6.60	7.20	7.80	8.50	9.25	10.05	10.95	\$12.90				
17		5.65	6.05	6.55	7.10	7.75	8.45	9.20	10.00	10.90	11.80	13.90				
18		5.95	6.45	7.00	7.60	8.30	9.05	9.90	10.75	11.70	12.70	14.90				
19			6.75	7.35	7.95	8.65	9.10	10.20	11.05	12.00	13.00	15.20				
20			7.15	7.75	8.45	9.20	10.00	10.90	11.85	12.80	13.90	16.20				
21			7.55	8.25	9.00	9.80	10.70	11.60	12.60	13.70	14.80	17.25	\$19.95			
22			8.00	8.75	9.55	10.45	11.40	12.40	13.45	14.55	15.75	18.30	21.10			
23			8.45	9.25	10.10	11.05	12.05	13.10	14.25	15.45	16.70	19.40	22.30			
24			8.80	9.60	10.50	11.45	12.45	13.50	14.60	15.80	17.05	19.75	22.70			
25			9.25	10.10	11.05	12.05	13.10	14.25	15.45	16.70	18.00	20.80	23.90			
26			9.75	10.70	11.70	12.45	13.90	15.05	16.30	17.60	19.00	21.95	25.10			
27			10.25	11.25	12.30	13.45	14.60	15.90	17.20	18.55	20.00	23.05	26.40	\$29.95		
28				11.80	12.95	14.10	15.40	16.70	18.05	19.50	21.00	24.20	27.60	31.30		
29				12.25	13.40	14.55	15.80	17.10	18.50	19.95	21.45	24.60	28.05	31.75		
30				12.80	14.00	15.25	16.55	17.95	19.40	20.90	22.45	25.75	29.30	33.15		
31				13.45	14.60	16.00	17.40	18.80	20.30	21.90	23.50	26.95	30.60	34.55		
32				14.05	15.40	16.75	18.20	19.70	21.25	22.90	24.55	28.10	31.95	36.00	\$40.30	
33				14.70	16.05	17.50	19.00	20.55	22.20	23.90	25.60	29.30	33.25	37.45	41.90	
34				15.20	16.55	18.00	19.50	21.05	22.70	24.40	26.10	29.80	33.75	37.95	42.40	
35				15.80	17.25	18.75	20.30	21.95	23.60	25.40	27.20	31.00	35.05	39.30	43.95	
36				16.50	18.00	19.55	21.20	22.90	24.60	26.45	28.20	32.25	36.45	40.90	45.55	
37				17.20	18.75	20.50	22.05	23.80	25.65	27.50	29.45	33.50	37.80	42.40	47.20	
38				17.90	19.50	21.10	22.95	24.75	26.60	28.55	30.55	34.75	39.20	43.90	48.80	
39				18.45	20.05	21.75	23.50	25.30	27.20	29.15	31.15	35.30	39.75	44.45	49.40	
40				19.10	20.80	22.55	24.40	26.25	28.20	30.10	32.25	36.55	41.00	46.95	51.00	
41				19.90	21.65	23.45	25.30	27.25	29.25	31.30	33.45	37.90	42.55	47.50	52.70	
42				20.60	22.45	24.30	26.25	28.25	30.25	32.45	34.60	39.20	44.00	49.05	54.40	
43					23.25	25.20	27.20	29.25	31.40	33.55	35.80	40.50	45.45	50.65	56.05	
44					23.90	25.80	27.80	29.90	32.00	34.20	36.45	41.10	46.05	51.25	56.75	
45					24.70	26.70	28.75	30.90	33.05	35.30	37.65	42.45	47.50	52.80	58.40	
46					25.55	27.60	29.75	31.95	34.20	36.50	38.90	43.80	49.00	54.45	60.10	
47					26.45	28.55	30.75	33.00	35.30	37.70	40.15	45.20	50.50	56.05	61.90	
48					28.55	30.75	33.00	35.30	37.70	40.15	42.65	47.80	53.25	58.95	64.90	

Prices of larger sizes than those listed will be quoted upon application.

Fibre and Iron Friction Gearing



Fig. T-459
Spur Fibre Friction



Fig. T-460
Spur Iron Friction

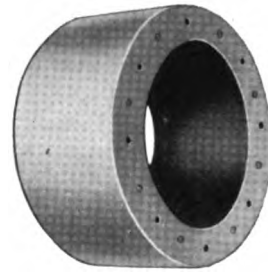


Fig. T-461
Spur Fibre Filler

Friction gearing, easily engaged and disengaged, is desirable where machinery is frequently thrown into and out of power.

Of the various frictional driving materials, a tarred fibre pinion running against a cast-iron wheel gives best results in general service.

With tarred fibre the allowable working pressure between the wheels is 250 pounds per inch of face width, giving an effective or horse-power pull of 69 pounds per inch of face width to rotate the wheels. Two per cent surface slippage is permissible in good practice.

Working horse-power with tarred fibre = .00055 DWN.

D = Diameter of fibre driving wheel in inches.

W = Face width of cast iron driven wheel in inches (width of tarred driver = $W + \frac{1}{4}$ inch to $\frac{3}{8}$ inch).

N = Number revolutions per minute of driving pinion.

The above 250 pounds pressure between faces may be momentarily increased to 750 pounds for starting from rest, with shafts figured at 7500 pounds per square inch fibre stress in bending for proper stiffness. All supporting bearings must be rigidly fixed, especially for bevel frictions.

It is essential, whatever the form of transmission, that the fibre wheel should be the driver. As friction is necessary to this type of drive, care must be taken to prevent the reduction of driving power by the access of foreign matter to the surfaces or exposure to excessive moisture.

Spur fibre and iron frictions can be furnished in diameters from 2 to 50 inches inclusive, 1-inch to 24-inch face.

Miter frictions in 4 to 50-inch diameters, 1 to 24-inch face.

Bevel frictions can be furnished in increasing and decreasing ratios from 1—1½ to 1—6.

Eccentric and end thrust boxes for use in connection with friction gearing, quoted upon application.



Fig. T-462
Miter or Bevel Fibre Friction

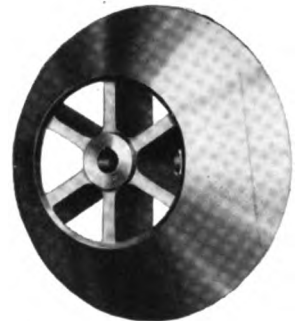


Fig. T-463
Miter or Bevel Iron Friction

Reversing and Single-Motion Friction Frames

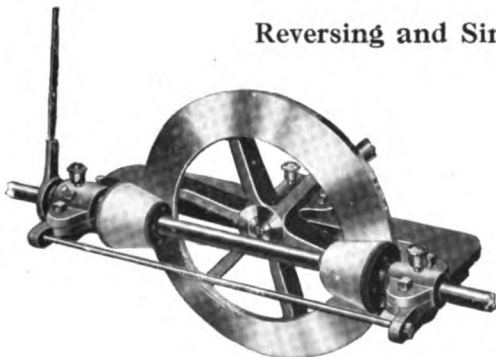


Fig. T-464
Reversing

Prices will be quoted upon application.



Fig. T-465
Single-Motion



Leather Belting

Our leather belting is manufactured exclusively from native packer steer hides, No. 1 selection, tanned by natural oak bark slow process.

A special process of currying insures thorough lubrication and preservation of every fibre and no substances are used to give fictitious weight or firmness. Only pure animal greases are used and these are thoroughly worked into the fibre of the leather.

The leather is stretched lengthwise by the most modern and approved method. Centers cut to sizes that are to be made up in belts and sides are stretched separately, insuring proper elongation of each part of the hide used for belting.

Leather for the several sizes of belts is cut from the same relative location of the various butts.

First quality belting, which includes F brand, Victor brand, F Brand Motor Double and F Brand Heavy Single, is cut from an area of the butt measuring not over four feet two inches from the tail end toward the shoulder and fifteen to eighteen inches each side of the center or back bone. All belting of these brands, eight inches and wider, have the backbone or spine mark of the hide running longitudinally in the center throughout its entire length.

Leather for Extra Short Lap brand, which is a medium or second quality belt, is cut from an area of the hide located not nearer than fifteen to eighteen inches nor further than twenty-one to twenty-four inches to the center or backbone.

All strips for belting after being cut are carefully sorted as to quality of leather. Only firm, close-fibred material is used for first quality brands. Particular care is given to matching strips of same width, thickness and firmness to insure an even thickness of belt and a homogeneity of material.

The scarfing and joining of strips into belts are done by expert and experienced workmen. A high grade of cement is used and the press work is mechanically perfect.

After strips are cemented every roll is tested on a power stretcher and each lap is subjected to a tension of not less than 2000 pounds per square inch.

First Quality Brands

F Brand—Heavy, first quality center stock belting, made in all widths and plies. Singles weigh 16 to 18 oz. per sq. ft. Doubles, 29 to 33 oz. per sq. ft., varying according to width. Only carefully selected heavy first quality leather is used in the construction of this brand.

Victor Brand—Medium weight, first quality center stock belting, made in all widths and plies. Singles weigh 14 to 16 oz. per sq. ft. Doubles, 26 to 29 oz. per sq. ft. varying according to width. Only carefully selected, medium weight first quality leather is used in the manufacture of Victor brand.

F Brand Motor—First quality center stock, made especially for use where it is necessary for double belts to operate over comparatively small diameter pulleys. Made only in doubles, weighing from 22 to 26 oz. per sq. ft., varying according to width.

Medium Quality Brands

Extra Short Lap Heavy—Made in both singles and doubles in all widths 6 inches and less, from a careful selection of side stock. Singles weigh from 16 to 18 oz. per sq. ft. Doubles, from 28 to 30 oz. per sq. ft.

Extra Short Lap Medium—Made in both singles and doubles in all widths 6 inches and less from a selection of medium weight side stock. Singles weigh from 14 to 15 oz. per sq. ft. Doubles, from 26 to 28 oz. per sq. ft.



Leather Belting Special First Quality Brands

F Brand Waterproof is a first quality center stock belting. Singles weigh 16 to 18 ounces per square foot. Doubles weigh 29 to 33 ounces per square foot, varying according to width.

F Brand Waterproof Planer, Double weighs 24 to 26 ounces per square foot, and can be furnished in sizes 20 inches wide and less. Designed especially for hard drives on high speed machinery where double belting operates over small diameter pulleys.

F Brand Waterproof Planer, Single weighs 18 to 20 ounces per square foot and is made in 4-inch widths and less. **Waterproof Leather Belting is Oil Dressed and Parts Joined With A High Grade Waterproof Cement Properly Applied.**

F Brand Extra Heavy Single is made in 6-inch widths and less and weighs 18 to 20 ounces per square foot.

As a guide for minimum pulley diameters in inches to use with leather belting, the following is suggested:

Brand	Velocity in Feet Per Minute		
	Not Greater than 1000	Not Greater than 2000	3000 and Greater
F Brand, Waterproof Planer, Single	2	2 1/2	3
Victor Brand, Single	3 1/4	4 1/4	4 3/4
F Brand, Single	4 1/2	5 1/2	6
F Brand, Waterproof, Single	4 1/2	5 1/2	6
F Brand, Motor, Double	4 1/2	5 1/2	6
F Brand, Planer, Double	4 1/2	5 1/2	6
Victor Brand, Double	7 1/4	8 1/4	9
F Brand, Double	12	13 1/4	14
F Brand, Waterproof, Double	12	13 1/4	14

For smaller diameter pulleys it is advisable to use thinner and lighter weight belts, oil dressed, if necessary.

Price List Single Thickness per Lineal Foot

Width Inches	List Prices	Width Inches	List Prices	Width Inches	List Prices	Width Inches	List Prices	Width Inches	List Prices	Width Inches	List Prices
1/2	\$.12	2 1/2	\$.60	6	\$1.44	15	\$3.60	25	\$6.00	40	\$9.60
5/8	.15	2 3/4	.66	6 1/2	1.56	16	3.84	26	6.24	42	10.08
3/4	.18	3	.72	7	1.68	17	4.08	27	6.48	44	10.56
7/8	.21	3 1/4	.78	8	1.92	18	4.32	28	6.72	46	11.04
1	.24	3 1/2	.84	9	2.16	19	4.56	29	6.96	48	11.52
1 1/4	.30	3 3/4	.90	10	2.40	20	4.80	30	7.20	50	12.00
1 1/2	.36	4	.96	11	2.64	21	5.04	32	7.68	52	12.48
1 3/4	.42	4 1/2	1.08	12	2.88	22	5.28	34	8.16	54	12.96
2	.48	5	1.20	13	3.12	23	5.52	36	8.64	56	13.44
2 1/4	.54	5 1/2	1.32	14	3.36	24	5.76	38	9.12	60	14.40

Double or two-ply belts—twice single list. Triple or three-ply belts—three times single list.

Round Leather Belting

The same stock and careful supervision enters into the manufacture of our round belt as in our various brands of flat leather belting.

Price List

Solid Round Belting Price per 1000 Feet		Patent Solid Round Belting, Per Lineal Foot		Twist Round Belting Per Lineal Foot		Cut Lace Price Per 100 Feet	
Sizes, Inches	List Prices	Sizes, Inches	List Prices	Sizes, Inches	List Prices	Width Inches	List Prices
1 1/8 heavy	\$70.00	7 1/16	\$.36	1 1/8	\$.08	1 1/4	\$2.50
1 1/16 heavy	100.00	1 1/2	.38	3 1/16	.12	5 1/16	3.00
1 1/4 regular	140.00	5 1/8	.48	1 1/4	.17	3 3/8	3.75
1 1/4 heavy	155.00	3 1/4	.60	5 1/16	.22	7 1/16	4.50
9 3/32 regular	170.00	7 1/8	.80	3 1/8	.27	1 1/2	5.50
5 1/16 regular	210.00	1	.96	1 1/2	.38	5 1/8	6.50
5 1/16 heavy	240.00	1 1/8	1.10	5 1/8	.48	3 1/4	7.50
3 1/8 regular	290.00	1 1/4	1.15	3 1/4	.60	7 1/8	9.50
3 1/8 heavy	330.00	1 1/2	1.40	7 1/8	.80	1	11.00
				1	.96		

Cut Lace and Lace Leather

The hides used in the manufacture of our lace leather and cut lacing are tanned and curried by a special process, resulting in a tough and pliable lace, possessing unusual tensile strength and wearing qualities. Prices of lace leather sides will be quoted upon application.



Rubber Belting

This belting is made of plies of specially woven cotton fabric, thoroughly impregnated with a high-grade rubber friction. The rubber used to friction the belting possesses in addition to the necessary tensile strength, the maximum life, elasticity and endurance to perform in a satisfactory manner the function of resisting ply separation and reducing to a minimum the wear of fibres.

Our standard brands for power transmission purposes consist of the following:

Heavy Duty—An extra heavy red friction surface belt suitable for the hardest transmission service, constructed of extra heavy, specially woven duck of great tensile strength, impregnated with a high-grade rubber friction. Beneath the outer plies there is an extra gum cushion which gives greater flexibility, excludes moisture and protects the belt from injury when loads are suddenly applied.

Friction Brand—A very high-grade friction surface belt adapted for all standard transmission service such as main and auxiliary drives. It is made of heavy duck of a special weave and has an extra quality of rubber friction between the plies. This brand possesses great strength and is unusually flexible.

High Speed—A friction surface belt made especially for high speed service on small diameter pulleys, built of light weight hard woven duck with an exceptionally high grade of rubber friction between the plies.

Specifications and prices on other grades of rubber belting, also belting with heavy outer covering of rubber for conveying purposes, will be submitted upon application.

The thickness of belting should be in correct proportion to its width and as a guide the following may be considered normal for rubber belting:

Width (inches).....	2—3	4	5	6—12	14—24	26—42	48—54
Number of Plies.....	3—4	3—5	4—5	4—6	5—6	6—8	7—10

The following proportions for minimum pulley diameters and maximum number of plies are recommended:

Minimum Pulley Diameter (inches).....	8	12	15	18	24	36	54
Maximum Number of Plies.....	3	4	5	6	7	8	10

Rubber belting may be compared with leather belting on the following basis:

4-ply = Heavy single

6-ply = Heavy double

10-ply = Triple

Price List per Lineal Foot

Width Inches	2-ply	3-ply	4-ply	5-ply	6-Ply	7-ply	8-ply	9-ply	10-ply
1	\$.18	\$.20	\$.24	.....	.....	.....	.....	.....	.....
1 1/4	.23	.26	.30	.....	.....	.....	.....	.....	.....
1 1/2	.27	.31	.36	\$.45	.....	.....	.....	.....	.....
1 3/4	.32	.36	.42	.53	.....	.....	.....	.....	.....
2	.34	.39	.46	.58	\$.69	.....	.....	.....	.....
2 1/2	.42	.48	.56	.70	.84	.....	.....	.....	.....
3	.48	.55	.65	.81	.98	.....	.....	.....	.....
3 1/2	.57	.65	.76	.95	1.14	.....	.....	.....	.....
4	.61	.70	.82	1.03	1.23	\$1.44	.....	.....	.....
4 1/2	.....	.78	.92	1.15	1.38	1.61	.....	.....	.....
5	.....	.87	1.02	1.28	1.53	1.79	.....	.....	.....
6	.....	1.04	1.22	1.53	1.83	2.14	\$2.44	\$2.75	\$3.06
7	.....	1.22	1.43	1.79	2.15	2.50	2.86	3.22	3.58
8	.....	1.31	1.54	1.93	2.31	2.70	3.08	3.47	3.86
9	.....	.....	1.73	2.16	2.60	3.03	3.46	3.89	4.32
10	.....	.....	1.92	2.40	2.88	3.36	3.84	4.32	4.80
11	.....	.....	2.11	2.64	3.17	3.69	4.22	4.75	5.28
12	.....	.....	2.30	2.88	3.45	4.03	4.60	5.18	5.76
13	.....	.....	2.50	3.13	3.75	4.38	5.00	5.63	6.26
14	.....	.....	2.69	3.36	4.04	4.71	5.38	6.05	6.72
15	.....	.....	2.88	3.60	4.32	5.04	5.76	6.48	7.20
16	.....	.....	3.08	3.86	4.62	5.40	6.16	6.94	7.72
18	.....	.....	3.46	4.32	5.20	6.06	6.92	7.78	8.64
20	.....	.....	3.84	4.80	5.76	6.72	7.68	8.64	9.60
22	.....	.....	4.22	5.28	6.34	7.38	8.44	9.50	10.56
24	.....	.....	4.60	5.76	6.90	8.06	9.20	10.36	11.52
26	.....	.....	.....	6.26	7.50	8.76	10.00	11.26	12.52
28	.....	.....	.....	6.72	8.08	9.42	10.76	12.10	13.44
30	.....	.....	.....	7.20	8.64	10.08	11.52	12.96	14.40
32	.....	.....	.....	7.72	9.24	10.80	12.32	13.88	15.44
34	.....	.....	.....	8.18	9.82	11.46	13.08	14.72	16.36
36	.....	.....	.....	8.64	10.40	12.12	13.84	15.56	17.28
38	.....	.....	.....	.....	10.96	12.78	14.60	16.42	18.24
40	.....	.....	.....	.....	11.52	13.44	15.36	17.28	19.20
42	.....	.....	.....	.....	12.10	14.10	16.12	18.14	20.16
44	.....	.....	.....	.....	12.68	14.76	16.88	19.00	21.12
46	.....	.....	.....	.....	13.24	15.44	17.64	19.86	22.08
48	.....	.....	.....	.....	13.80	16.12	18.40	20.72	23.04

For endless belts, 11 inches wide and less, an extra charge for 6 additional feet is made; 12 inches and wider, a charge for 8 additional feet.



Balata Belting

F Brand Balata Belting is manufactured from extra heavy cotton duck which is woven on special looms under high tension, eliminating all undesirable stretch. It is saturated with a balata solution by a process which results in the highest obtainable friction and durability.

This belting is very flexible and of high tensile strength, is not affected by dampness or water and will run straight and true on pulleys. It is suitable for use on all open drives except under excessive heat conditions or frequent shifting of belt.

The duck is in one-piece and folded upon itself to make the necessary plies producing a belt without longitudinal seams, which is very flexible and particularly serviceable for high speeds with small diameter pulleys.

Balata belting can be compared with leather belting on the following basis:

3-ply = light single 4 inches wide and less
 4-ply = heavy single 4 to 8 inches wide
 5-ply = medium weight double
 6-ply = full weight double
 8-10-ply = triple

The thickness of belting should be in a correct proportion to its width and as a guide the following may be considered normal for balata belting:

Width (inches).....	1-4	3-8	6-14	12-22	20-30	28-50
Number of plies.....	3	4	5	6	7	8

The following proportions for minimum pulley diameters and maximum number of plies are recommended:

Minimum pulley diameter (inches).....	4	8	11	15	20	26	40	60
Maximum number of plies.....	3	4	5	6	7	8	10	12

Price List per Lineal Foot

Width in Inches	3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply	10-Ply
1	\$.18	\$.21	\$.30				
1 1/4	.23	.30	.38				
1 1/2	.27	.36	.45				
1 3/4	.32	.42	.53	\$.63			
2	.36	.48	.60	.72			
2 1/4	.45	.60	.75	.90			
3	.54	.72	.90	1.08			
3 1/4	.63	.84	1.05	1.26			
4	.72	.96	1.20	1.44			
4 1/4	.81	1.08	1.35	1.62			
5	.90	1.20	1.50	1.80			
6	1.08	1.44	1.80	2.16	\$2.52	\$2.88	
7	1.26	1.68	2.10	2.52	2.94	3.36	
8	1.44	1.92	2.40	2.88	3.36	3.84	\$4.80
9	1.62	2.16	2.70	3.24	3.78	4.32	5.40
10	1.80	2.40	3.00	3.60	4.20	4.80	6.00
11	1.98	2.64	3.30	3.96	4.62	5.28	6.60
12	2.16	2.88	3.60	4.32	5.04	5.76	7.20
13			3.90	4.68	5.46	6.24	7.80
14			4.20	5.04	5.88	6.72	8.40
15			4.50	5.40	6.30	7.20	9.00
16			4.80	5.76	6.72	7.68	9.60
18			5.40	6.48	7.56	8.64	10.80
20			6.00	7.20	8.40	9.60	12.00
22			6.60	7.92	9.24	10.56	13.20
24			7.20	8.64	10.08	11.52	14.40

Other widths and plies at proportionate prices, \$.06 per ply per inch of width.

For endless belts, 12 inches wide and less, an extra charge is made for 3 additional feet.

For widths 13 to 20 inches, an extra charge is made for 4 additional feet. Wider sizes in proportion.



Canvas Stitched Belting

This belting is made of cotton duck closely woven on special heavy looms. The duck for each size belt is made the exact width with two selvages, insuring a uniform resistance to stretch. All widths are machine folded. This eliminates the possibility of hollow edges in finished belt.

The plies are stitched together with extra heavy sewing twine under heavy tension. The rows of stitching are one-quarter inch apart, and thoroughly embedded in the duck.

The belting is saturated with a pure linseed oil compound which makes it waterproof and keeps the inside pliable. After this treatment the outside of the belt is coated with a special waterproof paint producing an excellent wearing surface of superior gripping power.

A characteristic feature of this belting is that it is thoroughly stretched during its manufacture and also while drying and seasoning.

F Brand is made to above specifications of 34-ounce duck. The outside edges are hardened to prevent wear if the belt should come in contact with foreign obstacles.

Victor Brand is made to above specifications of 32-ounce duck without hardened edges.

The thickness of belting should be in a correct proportion to its width. The following may be considered normal for canvas stitched belting:

The following proportions for minimum pulley diameters and maximum number of plies are recommended:

Width (inches).....	1-5	4-10	8-12	14-24	26-50	Minimum pulley diameter (inches)	9	12	16	30	48	66
Number of plies.....	4	5	6	8	10	Maximum number of plies.....	4	5	6	8	10	12

Canvas belting may be compared with leather on the following basis:

4-ply = heavy single

6-ply = heavy double

10-ply = triple

Price List per Lineal Foot

Widths, Inches	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply	Widths, Inches	4-ply	5-ply	6-ply	8-ply	10-ply
1	\$.20					15	\$2.48	\$3.09	\$3.72	\$4.96	\$6.20
1½	.30					16	2.64	3.30	3.96	5.28	6.60
2	.39	\$.49	\$.59			18	2.97	3.72	4.46	5.94	7.43
2½	.48	.60	.72			20	3.30	4.13	4.95	6.60	8.25
3	.57	.71	.86			22	3.63	4.55	5.45	7.26	9.08
3½	.65	.81	.98			24	3.96	4.95	5.94	7.92	9.90
4	.74	.93	1.11	\$1.48		26	4.68	5.85	7.02	9.36	11.70
4½	.81	1.01	1.22	1.62		28	5.04	6.30	7.56	10.08	12.60
5	.90	1.13	1.35	1.80		30	5.40	6.75	8.10	10.80	13.50
6	1.05	1.31	1.58	2.10		32	5.76	7.20	8.64	11.52	14.40
7	1.20	1.50	1.80	2.40		34	6.12	7.65	9.18	12.24	15.30
8	1.35	1.69	2.03	2.70		36	6.48	8.10	9.72	12.96	16.20
9	1.49	1.86	2.24	2.98		38	7.41	9.27	11.12	14.82	18.53
10	1.62	2.03	2.43	3.24		40	7.80	9.75	11.70	15.60	19.50
11	1.76	2.20	2.64	3.52		42	8.19	10.25	12.29	16.38	20.48
12	2.05	2.57	3.08	4.10	\$5.13	44	8.58	10.73	12.87	17.16	21.45
13	2.15	2.69	3.23	4.30	5.37	46	8.97	11.22	13.46	17.94	22.43
14	2.31	2.90	3.47	4.62	5.78	48	9.36	11.70	14.04	18.72	23.40

For endless belts, 16 inches wide and less, an extra charge for 7 additional feet is made; for 18 inches and wider, a charge for length equivalent to 5 times the belt width.

Canvas Stitched Endless Thresher and Tractor Belts

This belt is made of 32-ounce duck and is of the same construction as **Victor Brand**.

Price List

Widths, Inches	4-Ply					5-Ply			6-Ply	
	Length in feet.					Length in feet.			Length in feet.	
	50	75	100	125	150	125	150	150	150	160
5	\$49.00	\$ 71.00	\$ 94.00							
6	57.00	83.00	110.00	\$136.00						
7	65.00	95.00	125.00	155.00	\$185.00	\$194.00	\$231.00			
8	73.00	107.00	141.00	175.00	208.00	218.00	261.00	\$277.00	\$313.00	\$333.00
9					230.00		287.00	305.00	345.00	368.00



Solid Woven White Cotton Belting

This belting is manufactured by weaving several layers of cotton yarn into one solid body. It is made without laps and care is taken in both the selection and the weaving of the yarns to produce a perfectly true running belt of uniform thickness. Belts of this kind are largely used with bucket elevators for handling light materials.

Price List per Lineal Foot

Widths Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply	Widths Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply
1	\$.08	\$.13	\$.18	\$.22	\$.25	\$.29		12	\$.68	\$.93	\$1.25	\$1.68	\$2.06	\$2.90	\$3.36
1 1/4	.09	.14	.20	.25	.28	.33		14	.79	1.07	1.45	1.94	2.42	3.30	3.90
1 1/2	.10	.16	.22	.27	.32	.37		16	.90	1.24	1.69	2.21	2.62	3.70	4.42
1 3/4	.11	.17	.24	.30	.35	.41		18	1.01	1.41	1.93	2.49	2.95	4.10	4.98
2	.13	.19	.26	.32	.39	.45		20	1.11	1.62	2.17	2.75	3.32	4.48	5.50
2 1/4	.14	.21	.28	.34	.42	.49		22	1.21	1.84	2.40	3.15	3.77	5.08	6.30
2 1/2	.15	.23	.30	.37	.45	.53		24	1.30	2.05	2.64	3.44	4.13	5.67	6.88
3	.18	.26	.34	.42	.52	.67		26	1.40	2.25	2.87	3.73	4.59	6.07	7.46
3 1/2	.20	.29	.38	.50	.58	.77		28	1.50	2.44	3.13	4.06	4.96	6.47	8.12
4	.23	.32	.42	.57	.64	.87		30	1.65	2.65	3.41	4.34	5.45	6.91	8.68
4 1/2	.25	.36	.46	.64	.75	.97		32	1.80	2.86	3.67	4.67	5.93	7.57	9.34
5	.28	.39	.50	.70	.84	1.07		34	1.95	3.01	3.91	4.98	6.36	8.23	9.96
5 1/2	.30	.42	.54	.76	.92	1.17		36	2.10	3.18	4.11	5.28	6.64	8.75	10.56
6	.32	.45	.58	.81	1.00	1.27		38	2.26	3.36	4.36	5.67	7.08	9.27	11.34
6 1/2	.34	.48	.63	.87	1.07	1.37		40	2.40	3.53	4.66	6.00	7.36	9.64	12.00
7	.36	.51	.68	.94	1.14	1.50		42	2.54	3.75	4.94	6.40	7.75	10.27	12.80
8	.43	.59	.78	1.08	1.35	1.77		44	2.70	3.93	5.20	6.80	8.10	10.75	13.60
9	.53	.73	.94	1.23	1.52	2.15	2.46	46	2.85	4.10	5.51	7.18	8.68	11.12	14.36
10	.60	.83	1.08	1.39	1.74	2.53	2.78	48	3.00	4.28	5.82	7.56	9.27	11.49	15.12

Special Impregnated Solid Woven Cotton Belting

A solid woven belting manufactured from long staple cotton yarn woven in a special manner. It is thoroughly impregnated with a special compound which lubricates all fibres and produces a belt that is waterproof, unaffected by extreme heat, alkali or acid fumes, and not injured by grease, oil, gases, etc.

High tensile strength and great flexibility, combined with superior gripping qualities, make it an ideal fabric belt for power transmission purposes as well as for elevating and conveying work. There are no plies to come apart, no stitches to wear or break.

Price List per Lineal Foot

Width, Inches	Single	Double	Triple	Width, Inches	Single	Double	Triple
1	\$.28			10	\$2.80	\$4.80	\$6.00
1 1/4	.35			12	3.36	5.76	7.20
1 1/2	.42	\$.72		14	3.92	6.72	8.40
1 3/4	.49	.84		16		7.68	9.60
2	.56	.96		18		8.64	10.80
2 1/4	.63	1.08		20		9.60	12.00
2 1/2	.70	1.20		22		10.56	13.20
2 3/4	.77	1.32		24		11.52	14.40
3	.84	1.44		26		12.48	15.60
3 1/4	.91	1.56		28		13.44	16.80
3 1/2	.98	1.68		30		14.40	18.00
4	1.12	1.92	\$2.40	32		15.36	19.20
4 1/2	1.26	2.16		34		16.32	20.40
5	1.40	2.40		36		17.28	21.60
5 1/2	1.54	2.64		38		18.24	
6	1.68	2.88	3.60	40		19.20	
6 1/2	1.82	3.12		42		20.16	
7	1.96	3.36	4.20	48		23.04	
8	2.24	3.84	4.80	54		25.92	
9	2.52	4.32	5.40				

Single = 4-ply canvas or rubber and single leather. Triple = 10-ply canvas or rubber and triple leather.
Double = 6-ply canvas or rubber and double leather.

Horse Power of Belting

It is impractical to give a fixed rule that will cover all kinds and grades of belting. The durability of a belt and the horse power it will transmit depend upon its size and kind and also adaptability to the service and conditions under which it must operate. Pliability, permanent elasticity and tensile strength, as well as strength of joints, coefficient of friction, arc of contact embraced on pulleys, velocity, nature of load, size of pulleys and their relative positions, belt centers, proper initial tension and maintenance of same, are all factors to be given consideration.

Table herewith contains conservative values of horse powers which leather belting of a first quality will transmit when arc of contact is not less than 180 degrees on either pulley and the values are based on an effective working tension of 42 pounds per inch of width for single belts and 70 pounds per inch of width for double belts.

Kind and Width of Belt, Inches	Velocity in Feet per Minute													
	400	600	800	1000	1200	1400	1600	1800	2000	2500	3000	3500	4000	4500
1 Single	.51	.76	1.02	1.27	1.53	1.78	2.04	2.29	2.54	3.18	3.82	4.45	5.09	5.73
Double	.85	1.27	1.70	2.12	2.55	2.97	3.40	3.82	4.24	5.30	6.36	7.42	8.49	9.55
1¼ Single	.64	.95	1.27	1.59	1.91	2.23	2.54	2.86	3.18	3.97	4.77	5.57	6.37	7.16
Double	1.06	1.59	2.12	2.65	3.18	3.71	4.24	4.77	5.30	6.62	7.95	9.28	10.61	11.94
1½ Single	.76	1.15	1.53	1.91	2.29	2.67	3.05	3.44	3.82	4.77	5.72	6.68	7.64	8.59
Double	1.27	1.91	2.55	3.18	3.82	4.45	5.09	5.73	6.36	7.95	9.54	11.14	12.73	14.32
2 Single	1.02	1.53	2.04	2.54	3.05	3.56	4.07	4.58	5.09	6.36	7.63	8.91	10.19	11.46
Double	1.70	2.55	3.40	4.24	5.09	5.94	6.79	7.64	8.48	10.60	12.72	14.85	16.97	19.08
2½ Single	1.27	1.91	2.55	3.18	3.82	4.46	5.09	5.73	6.36	7.95	9.54	11.15	12.72	14.31
Double	2.12	3.18	4.25	5.30	6.36	7.43	8.49	9.55	10.62	13.26	15.90	18.58	21.24	23.89
3 Single	1.53	2.29	3.05	3.82	4.58	5.35	6.11	6.87	7.64	9.54	11.46	13.37	15.28	17.18
Double	2.55	3.82	5.09	6.37	7.64	8.91	10.19	11.46	12.74	15.91	19.11	22.29	25.48	28.65
3½ Single	1.78	2.67	3.56	4.45	5.34	6.24	7.13	8.02	8.91	11.14	13.37	15.60	17.82	20.05
Double	2.97	4.46	5.94	7.43	8.91	10.40	11.88	13.37	14.86	18.56	22.29	26.00	29.72	33.42
4 Single	2.04	3.05	4.07	5.09	6.11	7.13	8.15	9.16	10.19	12.73	15.28	17.83	20.38	22.92
Double	3.40	5.09	6.79	8.49	10.18	11.88	13.58	15.28	16.98	21.21	25.47	29.71	33.96	38.17
5 Single	2.55	3.82	5.09	6.37	7.64	8.92	10.19	11.46	12.73	15.91	19.10	22.28	25.56	28.64
Double	4.24	6.37	8.49	10.61	12.74	14.86	16.98	19.10	21.22	26.52	31.83	37.14	42.44	47.74
6 Single	3.05	4.58	6.11	7.63	9.16	10.69	12.22	13.74	15.27	19.09	22.91	26.73	30.54	34.36
Double	5.09	7.64	10.18	12.73	15.28	17.82	20.36	22.91	25.46	31.82	38.18	44.56	50.92	57.28
8 Single	4.07	6.11	8.15	10.18	12.22	14.26	16.30	18.34	20.36	25.47	30.55	35.69	40.72	45.73
Double	6.79	10.19	13.58	16.98	20.36	23.77	27.15	30.56	33.94	42.42	50.94	59.42	67.88	76.36
10 Single	4.49	6.73	8.97	11.21	13.45	15.69	17.93	20.17	22.41	28.01	33.61	39.21	44.81	50.41
Double	8.49	12.73	16.97	21.21	25.45	29.69	33.93	38.17	42.41	53.01	63.61	74.21	84.81	95.41
12 Single	4.89	7.33	9.77	12.21	14.65	17.09	19.53	21.97	24.41	30.51	36.61	42.71	48.81	54.91
Double	10.18	15.27	20.36	25.45	30.54	35.63	40.72	45.81	50.91	63.63	76.36	89.09	101.82	114.54
14 Single	5.29	7.93	10.57	13.21	15.85	18.49	21.13	23.77	26.41	33.01	39.61	46.21	52.81	59.41
Double	11.88	17.82	23.76	29.70	35.64	41.58	47.52	53.45	59.39	74.24	89.09	103.94	118.78	133.63
16 Single	5.69	8.53	11.37	14.21	17.05	19.89	22.73	25.57	28.41	35.71	43.41	51.11	58.81	66.51
Double	13.58	20.36	27.15	33.94	40.73	47.52	54.30	61.09	67.88	84.84	101.82	118.79	135.76	152.72
18 Single	6.09	9.13	12.17	15.21	18.25	21.29	24.33	27.37	30.41	38.51	46.61	54.71	62.81	70.91
Double	15.27	22.91	30.54	38.18	45.82	53.45	61.09	68.73	76.36	95.45	114.55	133.63	152.72	171.81
20 Single	6.49	9.73	12.97	16.21	19.45	22.69	25.93	29.17	32.41	41.01	49.61	58.21	66.81	75.41
Double	16.98	25.47	33.96	42.45	50.94	59.43	67.92	76.41	84.90	106.12	127.35	148.57	169.80	191.02
22 Single	6.89	10.33	13.77	17.21	20.65	24.09	27.53	30.97	34.41	43.51	52.61	61.71	70.81	79.91
Double	18.67	28.00	37.33	46.67	56.00	65.33	74.66	84.00	93.33	116.67	140.00	163.34	186.67	210.00
24 Single	7.29	10.93	14.57	18.21	21.85	25.49	29.13	32.77	36.41	46.01	55.61	65.21	74.81	84.41
Double	20.36	30.55	40.73	50.91	61.09	71.27	81.45	91.64	101.82	127.27	152.73	178.18	203.64	229.09

With an arc of contact differing from 180 degrees, these values should be multiplied by a factor in the following table:

Arc of contact (degrees) =	90	100	110	120	130	140	150	160	170	180	190	200	210
Factor =	0.65	0.70	0.75	0.79	0.83	0.87	0.91	0.94	0.97	1.00	1.03	1.05	1.07

To calculate the horse power that any belt will transmit, divide the product of the effective pull or working tension in pounds per inch of width, times the width of belt in inches, times the velocity in feet per minute, by 33,000.

To determine width of belt necessary to transmit a given horse power, divide the product of 33,000 times the horse power by the product of effective pull or working tension per inch of width times the velocity in feet per minute.

Results obtained by use of either of the above rules are based on an arc of contact of 180 degrees.

Belting

Formulae

1. Velocity of belt in feet per minute = $.2618 D N$
2. Arc of contact in degrees on smaller pulley of an open drive = $181 - \frac{60 (D - d)}{1}$
3. Length of belt in feet for open drive (pulleys of same diameter) = $2 L + .2618 D$
4. Length of belt in feet for crossed drive (pulleys of same diameter) = $.2618 D + \frac{1}{6} \sqrt{l^2 + D^2}$
5. Length of belt in feet for open drive (pulleys of different diameters) = $.1309 (D + d) + \frac{1}{6} \sqrt{l^2 + \left(\frac{D - d}{2}\right)^2}$
6. Length of belt in feet for crossed drive (pulleys of different diameters) = $.1309 (D + d) + \frac{1}{6} \sqrt{l^2 + \left(\frac{D + d}{2}\right)^2}$

D = diameter of larger pulley in inches. (In 1, D = diameter of pulley considered.
In 3 and 4, D = common diameter of pulleys considered.)

d = diameter of smaller pulley in inches.

L = distance between centers of pulleys in feet.

l = distance between centers of pulleys in inches.

N = number of revolutions per minute.

Leather Shafting Rings

These rings may be used to keep line shafting in a perfectly clean condition. They weave back and forth as the shaft revolves preventing the accumulation of lint, dirt, rust and excess oil. They will not travel along the shaft unless it is absolutely level.

One ring should be used for each open space on shaft 18 inches or less, and at least two rings for greater distances.

List Price

Shaft Size in Inches	List Price, Each	Shaft Size in Inches	List Price, Each	Shaft Size in Inches	List Price, Each
1 $\frac{7}{16}$	\$.28	2 $\frac{7}{16}$	\$.41	3 $\frac{7}{16}$	\$.56
1 $\frac{11}{16}$	.31	2 $\frac{11}{16}$	.44	3 $\frac{11}{16}$	.61
1 $\frac{15}{16}$	.34	2 $\frac{15}{16}$	.48	3 $\frac{15}{16}$	.65
2 $\frac{3}{16}$	.37	3 $\frac{3}{16}$	.52		

Double Iron Screw Belt Clamps

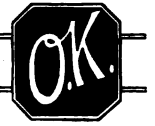
The jaws are made of selected rock maple and are so shaped on face as to grip the belt in such a manner that it cannot slip.

The side screws are fitted with hexagon boss at center, and right and left hand nuts at ends.



Fig T-466

Clamp Symbols,	For Belts Width, Inches	Length of Side Screws, Inches	List Prices
12	6 to 12	36	\$ 8.00
18	12 " 18	44	10.00
24	18 " 24	54	12.00
36	24 " 36	66	18.00



Suggestions for Installation and Care of Belting

Extremely tight belts should be avoided. Excessive initial tension strains a belt beyond its elastic limit, thereby shortening its life. It increases bearing friction which results in lower efficiency of the drive and waste of power.

The crowns of driving and driven pulleys should be as nearly alike as is practicable, and in height should not exceed $\frac{1}{16}$ inch per foot of belt width; that is, the diameter of a pulley for a 12-inch belt should measure approximately $\frac{1}{8}$ inch larger at the crown than at the edges of the face. An excessively high crown prevents uniform contact of full belt width with pulley, overstrains the center section of belt and causes it to flap when running.

The flesh side of leather belting should not be run next to the pulley as the wear of attrition from contact with the pulley and crimping of belt in passing around pulley, is best resisted by the grain side. The tensile strength of the flesh side being much greater it will withstand stretching in a higher degree when conforming to pulley.

Vertical belt drives are often unsatisfactory due to the continuous high initial tension necessary to keep belt in proper contact with lower pulley. For transmitting power between shafts that are not on the same level, the angularity of belt should not exceed 45 degrees.

The direction of belt travel should be from top of driving pulley to top of driven, thus securing greatest possible arc of contact.

The distance between centers of driving and driven pulleys should be such as to allow a gentle sag to belt when in motion.

The following may be considered a good average distance between centers for drives where angularity of belt does not exceed 45 degrees, 15 feet for belts of the narrower widths when operating on comparatively small diameter pulleys, sag being $1\frac{1}{2}$ to 2 inches; 20 to 25 feet for belts of medium widths running on larger pulleys, sag being from $2\frac{1}{2}$ to 4 inches; 25 to 30 feet for the wider belts running on comparatively large diameter pulleys, sag being 4 to 5 inches. Too great a distance between centers will produce flapping and unsteady motion and will wear out the belt.

The belt should be kept clean and pliable at all times. If it should become dry and hard use only high grade castor oil dressing for leather and boiled linseed oil for rubber and canvas belting. Mineral oils and greases rapidly destroy the fibres and should, therefore, never be used. Resinous substances should be used under no circumstances.

Pulleys and shafts should always be in correct alignment and belts should be joined so that their edges are parallel, otherwise the tension in belt will be uneven and belt will run off pulleys.

Do not permit slippage on pulleys. This will cause glazing or burning of the belt surface, and result in decreased transmitting capacity and longevity.

Belts should be made endless for high velocities and when they are to operate on comparatively small diameter pulleys.

When tightener or idler pulleys are necessary, locate same against slack side of belt a distance from driven pulley equivalent to about one-third of the distance between pulley centers.

An economical speed for belting is 4,000 feet per minute. Wherever possible use large pulleys and narrow belts in preference to small pulleys and wide belts.

Information as covered in the following is necessary when recommendations as to kind and size of belting to be used are desired:

- | | |
|--|--|
| 1. Width of belt. Ply or thickness. | 10. What is normal operating, and what is peak load? |
| 2. Diameter of driving pulley, face width, whether crown or straight. | 11. Is the load steady, irregular, or suddenly applied? |
| 3. Diameter of driven pulley, face width, crown or straight. | 12. Does present belt slip on pulleys? |
| 4. Revolutions per minute of either or both, driving and driven pulleys. | 13. Is there heat, acid fumes or moisture? If so, give explanation. |
| 5. Distance between shaft centers. Is tight side of belt top or bottom? | 14. Is belt crossed or open? |
| 6. Is belt horizontal or vertical? | 15. Is present belt made endless? If not, what type of fasteners are used? |
| 7. If neither horizontal nor vertical, what is the angle? | 16. What kind of belt is now in use? What length of time has it served? |
| 8. Is an idler, tightener or shifter used? | 17. Your opinion as to why a new belt is required. |
| 9. Has drive a take-up for possible stretch? | 18. Kind of drive, motor, pump, saw, air compressor, etc. |

If possible send sketch with dimensions.

Cast-Iron Spur Gears



Fig. T-467

The gears of this type enumerated in the following lists are manufactured by the machine molding process. The teeth are molded from a single tooth pattern and the spacing is accomplished by accurate machinery. A machine molded gear is more accurate, better balanced and as nearly perfect as it is possible to make a cast tooth wheel.

Prices given in the following lists are for gears bored to exact size, keyseated or set screwed.

Standard Faces for Spur Gears

Pitch, Inches	Face, Inches	Pitch, Inches	Face, Inches	Pitch, Inches	Face, Inches
$\frac{3}{4}$	$1\frac{3}{4}$	$1\frac{1}{4}$	$3\frac{1}{2}$	$2\frac{1}{4}$	7
$\frac{7}{8}$	2	$1\frac{1}{2}$	$4\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$
1	$2\frac{1}{2}$	$1\frac{3}{4}$	$5\frac{1}{2}$	$2\frac{3}{4}$	8
$1\frac{1}{8}$	3	2	6	3	9

$\frac{3}{4}$ -Inch Pitch

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
6011	\$1.60	11	2.66	$1\frac{3}{4}$	$2\frac{1}{4}$	6033	\$4.60	33	7.80	$1\frac{3}{4}$	$2\frac{1}{4}$
6013	1.90	13	3.13	$1\frac{3}{4}$	$2\frac{1}{4}$	13439	5.70	39	9.32	$1\frac{3}{4}$	$2\frac{1}{4}$
6014	2.05	14	3.37	$1\frac{3}{4}$	$2\frac{1}{4}$	13446	6.60	46	10.99	$1\frac{3}{4}$	$2\frac{1}{4}$
$1\frac{3}{4}$ 14	2.05	14	3.37	$1\frac{3}{4}$	$2\frac{1}{4}$	6047	6.75	47	11.23	$1\frac{3}{4}$	$2\frac{1}{4}$
6015	2.20	15	3.61	$1\frac{3}{4}$	$2\frac{1}{4}$	6060	8.60	60	14.33	$1\frac{3}{4}$	$2\frac{1}{2}$
$1\frac{3}{4}$ 15	2.20	15	3.61	$1\frac{3}{4}$	$2\frac{1}{4}$	6067-A	9.50	67	16.00	$1\frac{1}{2}$	$2\frac{1}{2}$
6017	2.40	17	4.08	$1\frac{3}{4}$	$2\frac{1}{4}$	6072	10.20	72	17.19	$1\frac{3}{4}$	$2\frac{1}{2}$
6021	3.00	21	5.03	$1\frac{3}{4}$	$2\frac{1}{4}$	6102-A	15.10	102	24.36	2	$2\frac{3}{4}$
6030	4.20	30	7.18	$1\frac{3}{4}$	$2\frac{1}{4}$						

$\frac{7}{8}$ -Inch Pitch

$1\frac{3}{8}$ 13	\$2.45	13	3.66	$2\frac{1}{4}$		7040-A	\$7.00	40	10.96	$2\frac{5}{8}$	$2\frac{3}{4}$
$1\frac{1}{2}$ 22	4.10	22	6.15	$2\frac{1}{4}$		$1\frac{1}{4}$ 46	7.90	46	12.82	2	
$1\frac{1}{2}$ 33	5.85	33	9.21	$2\frac{1}{4}$							

1-Inch Pitch

Cast-iron spur gears 1-inch pitch, $2\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 3.06 horse power at 100 feet per minute on the pitch line, 4.67 horse power at 200 feet, 6.10 horse power at 300 feet, 8.55 horse power at 500 feet, 11.36 horse power at 750 feet, 13.72 horse power at 1,000 feet, 15.93 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

8010	\$2.50	10	3.24	$2\frac{1}{2}$	3	8026	\$5.50	26	8.30	$2\frac{1}{2}$	3
8011	2.65	11	3.55	$2\frac{1}{2}$	3	8027	5.65	27	8.62	$2\frac{1}{2}$	3
8012	2.85	12	3.86	$2\frac{1}{2}$	3	8028	5.85	28	8.93	$2\frac{1}{2}$	3
8013	3.05	13	4.18	$2\frac{1}{2}$	3	8029	6.05	29	9.25	$2\frac{1}{2}$	3
8014	3.25	14	4.49	$2\frac{1}{2}$	3	8030	6.25	30	9.57	$2\frac{1}{2}$	3
8015	3.40	15	4.81	$2\frac{1}{2}$	3	8031	6.45	31	9.88	$2\frac{1}{2}$	3
8016	3.55	16	5.13	$2\frac{1}{2}$	3	8032	6.65	32	10.20	$2\frac{1}{2}$	3
8017	3.75	17	5.44	$2\frac{1}{2}$	3	8033	6.80	33	10.52	$2\frac{1}{2}$	3
8018	3.95	18	5.76	$2\frac{1}{2}$	3	8034	7.00	34	10.85	$2\frac{1}{2}$	3
8019	4.15	19	6.08	$2\frac{1}{2}$	3	8035	7.20	35	11.16	$2\frac{1}{2}$	3
8020	4.30	20	6.39	$2\frac{1}{2}$	3	8036	7.40	36	11.47	$2\frac{1}{2}$	3
8021	4.50	21	6.71	$2\frac{1}{2}$	3	8037	7.60	37	11.79	$2\frac{1}{2}$	3
8022	4.70	22	7.03	$2\frac{1}{2}$	3	8038	7.80	38	12.11	$2\frac{1}{2}$	$3\frac{1}{4}$
8023	4.90	23	7.34	$2\frac{1}{2}$	3	8039	8.00	39	12.42	$2\frac{1}{2}$	$3\frac{1}{4}$
8024	5.10	24	7.66	$2\frac{1}{2}$	3	8040	8.20	40	12.75	$2\frac{1}{2}$	$3\frac{1}{4}$
8025	5.30	25	7.98	$2\frac{1}{2}$	3	8042	8.55	42	13.38	$2\frac{1}{2}$	$3\frac{1}{4}$



Cast-Iron Spur Gears

1-Inch Pitch

Cast-iron spur gears 1-inch pitch, $2\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 3.06 horse power at 100 feet per minute on the pitch line, 4.67 horse power at 200 feet, 6.10 horse power at 300 feet, 8.56 horse power at 500 feet, 11.36 horse power at 750 feet, 13.72 horse power at 1,000 feet, 15.93 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
8044	\$8.95	44	14.02	$2\frac{1}{2}$	$3\frac{1}{4}$	8094	\$30.80	94	29.93	$2\frac{1}{2}$	$3\frac{3}{4}$
8045	9.15	45	14.34	$2\frac{1}{2}$	$3\frac{1}{4}$	8095	31.35	95	30.24	$2\frac{1}{2}$	$3\frac{3}{4}$
8046	9.35	46	14.65	$2\frac{1}{2}$	$3\frac{1}{4}$	8096	31.90	96	30.56	$2\frac{1}{2}$	$3\frac{3}{4}$
8048	9.75	48	15.29	$2\frac{1}{2}$	$3\frac{1}{4}$	8097	32.45	97	30.88	$2\frac{1}{2}$	$3\frac{3}{4}$
8049	9.95	49	15.61	$2\frac{1}{2}$	$3\frac{1}{4}$	8098	33.00	98	31.20	$2\frac{1}{2}$	$3\frac{3}{4}$
8050	10.15	50	15.92	$2\frac{1}{2}$	$3\frac{1}{4}$	8099	33.55	99	31.52	$2\frac{1}{2}$	$3\frac{3}{4}$
8052	10.55	52	16.36	$2\frac{1}{2}$	$3\frac{1}{4}$	8100	34.10	100	31.84	$2\frac{1}{2}$	$3\frac{3}{4}$
8053	10.70	53	16.88	$2\frac{1}{2}$	$3\frac{1}{4}$	8102	34.90	102	32.47	$2\frac{1}{2}$	$3\frac{3}{4}$
8054	10.90	54	17.20	$2\frac{1}{2}$	$3\frac{1}{4}$	8104	35.70	104	33.11	$2\frac{1}{2}$	$3\frac{3}{4}$
8055	11.10	55	17.52	$2\frac{1}{2}$	$3\frac{1}{4}$	8105	36.10	105	33.43	$2\frac{1}{2}$	$3\frac{3}{4}$
8056	11.30	56	17.83	$2\frac{1}{2}$	$3\frac{1}{4}$	8106	36.50	106	33.75	$2\frac{1}{2}$	$3\frac{3}{4}$
8058	11.70	58	18.47	$2\frac{1}{2}$	$3\frac{1}{2}$	8108	37.30	108	34.38	$2\frac{1}{2}$	$3\frac{3}{4}$
8060	12.10	60	19.11	$2\frac{1}{2}$	$3\frac{1}{2}$	8110	38.10	110	35.02	$2\frac{1}{2}$	$3\frac{3}{4}$
8062	12.50	62	19.74	$2\frac{1}{2}$	$3\frac{1}{2}$	8112	38.90	112	35.65	$2\frac{1}{2}$	$3\frac{3}{4}$
8063	12.70	63	20.06	$2\frac{1}{2}$	$3\frac{1}{2}$	8114	39.70	114	36.29	$2\frac{1}{2}$	$3\frac{3}{4}$
8064	12.90	64	20.38	$2\frac{1}{2}$	$3\frac{1}{2}$	8115	40.10	115	36.61	$2\frac{1}{2}$	$3\frac{3}{4}$
8065	13.10	65	20.70	$2\frac{1}{2}$	$3\frac{1}{2}$	8116	40.50	116	36.93	$2\frac{1}{2}$	$4\frac{1}{2}$
8066	13.50	66	21.02	$2\frac{1}{2}$	$3\frac{1}{2}$	8118	40.90	118	37.56	$2\frac{1}{2}$	$4\frac{1}{2}$
8067	14.00	67	21.33	$2\frac{1}{2}$	$3\frac{1}{2}$	8120	42.10	120	38.20	$2\frac{1}{2}$	$4\frac{1}{2}$
8068	14.80	68	21.65	$2\frac{1}{2}$	$3\frac{1}{2}$	8122	42.90	122	38.84	$2\frac{1}{2}$	$4\frac{1}{2}$
8069	15.00	69	21.98	$2\frac{1}{2}$	$3\frac{1}{2}$	8124	43.70	124	39.47	$2\frac{1}{2}$	$4\frac{1}{2}$
8070	16.40	70	22.29	$2\frac{1}{2}$	$3\frac{1}{2}$	8125	44.10	125	39.79	$2\frac{1}{2}$	$4\frac{1}{2}$
8071	17.20	71	22.61	$2\frac{1}{2}$	$3\frac{1}{2}$	8126	44.50	126	40.11	$2\frac{1}{2}$	$4\frac{1}{2}$
8072	18.00	72	22.93	$2\frac{1}{2}$	$3\frac{1}{2}$	8128	45.30	128	40.75	$2\frac{1}{2}$	$4\frac{1}{2}$
8073	18.80	73	23.24	$2\frac{1}{2}$	$3\frac{1}{2}$	8130	46.10	130	41.38	$2\frac{1}{2}$	$4\frac{1}{2}$
8074	19.60	74	23.56	$2\frac{1}{2}$	$3\frac{1}{2}$	8132	46.90	132	42.02	$2\frac{1}{2}$	$4\frac{1}{2}$
8075	20.40	75	23.88	$2\frac{1}{2}$	$3\frac{1}{2}$	8134	47.70	134	42.66	$2\frac{1}{2}$	$4\frac{1}{2}$
8076	20.90	76	24.20	$2\frac{1}{2}$	$3\frac{1}{2}$	8135	48.10	135	42.98	$2\frac{1}{2}$	$4\frac{1}{2}$
8077	21.55	77	24.52	$2\frac{1}{2}$	$3\frac{1}{2}$	8136	48.50	136	43.29	$2\frac{1}{2}$	$4\frac{1}{2}$
8078	22.00	78	24.83	$2\frac{1}{2}$	$3\frac{1}{2}$	8138	49.30	138	43.93	$2\frac{1}{2}$	$4\frac{1}{2}$
8079	22.55	79	25.15	$2\frac{1}{2}$	$3\frac{1}{2}$	8140	50.10	140	44.57	$2\frac{1}{2}$	$4\frac{1}{2}$
8080	23.00	80	25.47	$2\frac{1}{2}$	$3\frac{1}{2}$	8142	50.90	142	45.20	$2\frac{1}{2}$	$4\frac{1}{2}$
8081	23.65	81	25.79	$2\frac{1}{2}$	$3\frac{1}{2}$	8144	51.70	144	45.84	$2\frac{1}{2}$	$4\frac{1}{2}$
8082	24.20	82	26.10	$2\frac{1}{2}$	$3\frac{1}{2}$	8145	52.10	145	46.16	$2\frac{1}{2}$	$4\frac{1}{2}$
8083	24.75	83	26.42	$2\frac{1}{2}$	$3\frac{1}{2}$	8146	52.50	146	46.48	$2\frac{1}{2}$	$4\frac{1}{2}$
8084	25.30	84	26.74	$2\frac{1}{2}$	$3\frac{1}{2}$	8148	53.30	148	47.11	$2\frac{1}{2}$	$4\frac{1}{2}$
8085	25.85	85	27.06	$2\frac{1}{2}$	$3\frac{1}{2}$	8150	54.10	150	47.75	$2\frac{1}{2}$	$5\frac{1}{2}$
8086	26.40	86	27.38	$2\frac{1}{2}$	$3\frac{1}{2}$	8152	54.90	152	48.38	$2\frac{1}{2}$	$5\frac{1}{2}$
8087	26.95	87	27.70	$2\frac{1}{2}$	$3\frac{1}{2}$	8154	55.70	154	49.02	$2\frac{1}{2}$	$5\frac{1}{2}$
8088	27.50	88	28.02	$2\frac{1}{2}$	$3\frac{1}{2}$	8155	56.10	155	49.34	$2\frac{1}{2}$	$5\frac{1}{2}$
8089	28.05	89	28.34	$2\frac{1}{2}$	$3\frac{1}{2}$	8156	56.50	156	49.66	$2\frac{1}{2}$	$5\frac{1}{2}$
8090	28.60	90	28.65	$2\frac{1}{2}$	$3\frac{1}{2}$	8158	57.30	158	50.30	$2\frac{1}{2}$	$5\frac{1}{2}$
8091	29.15	91	28.97	$2\frac{1}{2}$	$3\frac{1}{2}$	8200	74.10	200	63.65	$2\frac{1}{2}$	6
8092	29.70	92	29.29	$2\frac{1}{2}$	$3\frac{1}{2}$	8225	84.10	225	71.01	$2\frac{1}{2}$	$6\frac{1}{2}$
8093	30.25	93	29.61	$2\frac{1}{2}$	$3\frac{1}{2}$						

$1\frac{1}{8}$ -Inch Pitch

Cast-iron spur gears $1\frac{1}{8}$ -inch pitch, 3-inch face, under ordinary conditions, will transmit 4.13 horse power at 100 feet per minute on the pitch line, 6.31 horse power at 200 feet, 8.23 horse power at 300 feet, 11.54 horse power at 500 feet, 15.33 horse power at 750 feet, 18.52 horse power at 1,000 feet, 21.50 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

9010	\$4.10	10	3.64	3	$3\frac{1}{4}$	9028	\$8.45	28	10.05	3	$3\frac{1}{2}$
9011	4.30	11	3.99	3	$3\frac{1}{2}$	9030	8.95	30	10.76	3	$3\frac{1}{2}$
9012	4.55	12	4.35	3	$3\frac{1}{2}$	9032	9.45	32	11.48	3	$3\frac{1}{2}$
9013	4.75	13	4.70	3	$3\frac{1}{2}$	9034	9.90	34	12.19	3	$3\frac{1}{2}$
9014	5.00	14	5.06	3	$3\frac{1}{2}$	9036	10.40	36	12.91	3	$3\frac{1}{2}$
9015	5.25	15	5.41	3	$3\frac{1}{2}$	9038	10.90	38	13.62	3	$3\frac{1}{2}$
9016	5.50	16	5.77	3	$3\frac{1}{2}$	9040	11.40	40	14.34	3	$3\frac{1}{2}$
9017	5.75	17	6.12	3	$3\frac{1}{2}$	9042	11.90	42	15.05	3	$3\frac{1}{2}$
9018	6.00	18	6.48	3	$3\frac{1}{2}$	9043	12.15	43	15.41	3	$3\frac{1}{2}$
9019	6.25	19	6.83	3	$3\frac{1}{2}$	9044	12.40	44	15.77	3	$3\frac{1}{2}$
9020	6.50	20	7.19	3	$3\frac{1}{2}$	9048	13.40	48	17.20	3	$3\frac{1}{2}$
9021	6.75	21	7.55	3	$3\frac{1}{2}$	9049	13.65	49	17.56	3	$3\frac{1}{2}$
9022	7.00	22	7.90	3	$3\frac{1}{2}$	9050	13.90	50	17.92	3	$3\frac{1}{2}$
9025	7.75	25	8.98	3	$3\frac{1}{2}$						



Cast-Iron Spur Gears

1½-Inch Pitch

Cast-iron spur gears 1½-inch pitch, 3-inch face, under ordinary conditions, will transmit 4.13 horse power at 100 feet per minute on the pitch line, 6.31 horse power at 200 feet, 8.23 horse power at 300 feet, 11.54 horse power at 500 feet, 15.33 horse power at 750 feet, 18.52 horse power at 1,000 feet, 21.50 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
9052	\$14.40	52	18.63	3	4	9096	\$39.70	96	34.38	3	4½
9054	14.90	54	19.33	3	4	9098	40.90	98	35.10	3	4½
9055	15.10	55	19.71	3	4	9100	42.10	100	35.82	3	4½
9056	15.70	56	20.06	3	4	9101	42.60	101	36.17	3	4½
9058	16.90	58	20.78	3	4	9102	43.10	102	36.53	3	4½
9060	18.10	60	21.50	3	4	9104	44.10	104	37.25	3	5
9062	19.30	62	22.21	3	4	9106	45.10	106	37.96	3	5
9064	20.50	64	22.93	3	4	9108	46.10	108	38.68	3	5
9065	21.10	65	23.29	3	4	9110	47.10	110	39.40	3	5
9066	21.70	66	23.64	3	4	9112	48.10	112	40.11	3	5
9068	22.90	68	24.36	3	4½	9114	49.10	114	40.83	3	5
9069	23.50	69	24.71	3	4½	9115	49.60	115	41.19	3	5
9070	24.10	70	25.07	3	4½	9116	50.10	116	41.55	3	5
9072	25.30	72	25.79	3	4½	9118	51.10	118	42.26	3	5
9074	26.50	74	26.51	3	4½	9120	52.10	120	42.98	3	5
9075	27.10	75	26.87	3	4½	9122	53.10	122	43.69	3	5
9076	27.70	76	27.22	3	4½	9124	54.10	124	44.41	3	5
9078	28.90	78	27.94	3	4½	9126	55.10	126	45.12	3	5
9080	30.10	80	28.65	3	4½	9128	56.10	128	45.84	3	5
9082	31.30	82	29.37	3	4½	9130	57.10	130	46.55	3	5
9084	32.50	84	30.09	3	4½	9132	58.10	132	47.27	3	5
9085	33.10	85	30.54	3	4½	9134	59.10	134	47.98	3	5½
9086	33.70	86	30.86	3	4½	9136	60.10	136	48.70	3	5½
9087	34.30	87	31.16	3	4½	9138	61.10	138	49.42	3	5½
9088	34.90	88	31.52	3	4½	9140	62.10	140	50.14	3	5½
9090	36.10	90	32.23	3	4½	9146	65.10	146	52.29	3	5½
9092	37.30	92	32.95	3	4½	9150	67.10	150	53.72	3	5½
9094	38.50	94	33.67	3	4½	9172	78.10	172	61.60	3	6
9095	39.10	95	34.02	3	4½	9200	92.10	200	71.61	3	6

1¼-Inch Pitch

Cast-iron spur gears 1¼-inch pitch, 3½-inch face, under ordinary conditions, will transmit 5.35 horse power at 100 feet per minute on the pitch line, 8.19 horse power at 200 feet, 10.67 horse power at 300 feet, 14.96 horse power at 500 feet, 19.88 horse power at 750 feet, 24.01 horse power at 1,000 feet, 27.87 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

10010	\$ 5.50	10	4.04	3½	4	10046	\$16.05	46	18.32	3½	4½
10011	5.80	11	4.44	3½	4	10048	16.65	48	19.11	3½	4½
10012	6.10	12	4.83	3½	4	10050	17.25	50	19.91	3½	4½
10013	6.40	13	5.22	3½	4	10051	17.90	51	20.30	3½	4½
10014	6.70	14	5.62	3½	4	10052	18.55	52	20.70	3½	4½
10015	7.00	15	6.01	3½	4	10054	19.85	54	21.50	3½	4½
10016	7.25	16	6.41	3½	4	10055	20.50	55	21.90	3½	4½
10017	7.55	17	6.80	3½	4	10056	21.15	56	22.30	3½	4½
10018	7.85	18	7.20	3½	4	10058	22.45	58	23.09	3½	4½
10019	8.15	19	7.59	3½	4	10060	23.75	60	23.88	3½	4½
10020	8.45	20	7.99	3½	4	10061	24.40	61	24.28	3½	4½
10021	8.75	21	8.39	3½	4	10062	25.05	62	24.68	3½	4½
10022	9.05	22	8.78	3½	4	10063	25.70	63	25.07	3½	4½
10023	9.35	23	9.18	3½	4	10064	26.35	64	25.47	3½	4½
10024	9.60	24	9.58	3½	4	10065	27.00	65	25.87	3½	4½
10025	9.90	25	9.97	3½	4	10066	27.65	66	26.27	3½	4½
10026	10.15	26	10.37	3½	4	10068	28.95	68	27.07	3½	4½
10027	10.45	27	10.77	3½	4	10069	29.60	69	27.47	3½	4½
10028	10.70	28	11.16	3½	4	10070	30.25	70	27.86	3½	4½
10029	11.00	29	11.56	3½	4	10071	30.90	71	28.26	3½	4½
10030	11.30	30	11.96	3½	4	10072	31.55	72	28.66	3½	4½
10031	11.60	31	12.35	3½	4	10073	32.20	73	29.06	3½	4½
10032	11.90	32	12.75	3½	4½	10074	32.85	74	29.45	3½	4½
10034	12.45	34	13.55	3½	4½	10075	33.50	75	29.85	3½	4½
10035	12.75	35	13.95	3½	4½	10076	34.15	76	30.25	3½	4½
10036	13.05	36	14.34	3½	4½	10077	34.80	77	30.65	3½	4½
10038	13.65	38	15.14	3½	4½	10078	35.45	78	31.04	3½	5
10040	14.20	40	15.93	3½	4½	10079	36.10	79	31.44	3½	5
10042	14.80	42	16.73	3½	4½	10080	36.75	80	31.84	3½	5
10044	15.40	44	17.52	3½	4½	10081	37.40	81	32.24	3½	5



Cast-Iron Spur Gears

1¼-Inch Pitch

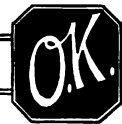
Cast-iron spur gears 1¼-inch pitch, 3½-inch face, under ordinary conditions, will transmit 5.35 horse power at 100 feet per minute on the pitch line, 8.19 horse power at 200 feet, 10.67 horse power at 300 feet, 14.96 horse power at 500 feet, 19.88 horse power at 750 feet, 24.01 horse power at 1,000 feet, 27.87 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
10082	\$38.05	82	32.63	3½	5	10106	\$52.00	106	42.19	3½	5½
10083	38.70	83	33.03	3½	5	10108	53.00	108	42.98	3½	5½
10084	39.35	84	33.43	3½	5	10110	54.00	110	43.78	3½	5½
10085	40.00	85	33.83	3½	5	10112	55.00	112	44.57	3½	5½
10086	40.65	86	34.23	3½	5	10114	56.00	114	45.37	3½	5½
10088	41.95	88	35.03	3½	5	10115	56.50	115	45.76	3½	5½
10089	42.60	89	35.43	3½	5	10416	57.00	116	46.16	3½	5½
10090	43.25	90	35.82	3½	5	10118	58.00	118	46.96	3½	5½
10092	44.35	92	36.61	3½	5½	10120	59.00	120	47.75	3½	5½
10094	45.45	94	37.41	3½	5½	10122	60.00	122	48.55	3½	6
10095	46.00	95	37.81	3½	5½	10124	61.00	124	49.34	3½	6
10096	46.55	96	38.20	3½	5½	10126	62.00	126	50.14	3½	6
10098	47.65	98	39.00	3½	5½	10128	63.00	128	50.93	3½	6
10099	48.20	99	39.40	3½	5½	10136	67.00	136	51.12	3½	6
10100	48.75	100	39.80	3½	5½	10144	71.00	144	57.30	3½	6
10102	49.85	102	40.59	3½	5½	10152	75.00	152	60.48	3½	6
10104	50.95	104	41.39	3½	5½	10194	96.00	194	77.18	3½	7
10105	51.50	105	41.79	3½	5½						

1½-Inch Pitch

Cast-iron spur gears 1½-inch pitch, 4½-inch face, under ordinary conditions, will transmit 8.26 horse power at 100 feet per minute on the pitch line, 12.60 horse power at 200 feet, 16.47 horse power at 300 feet, 23.08 horse power at 500 feet, 30.66 horse power at 750 feet, 37.04 horse power at 1,000 feet, 43.00 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

12010	\$ 8.80	10	4.85	4½	5	12050	\$31.60	50	23.89	4½	5½
12011	9.25	11	5.32	4½	5	12051	32.30	51	24.37	4½	5½
12012	9.70	12	5.80	4½	5	12052	33.00	52	24.84	4½	5½
12013	10.15	13	6.27	4½	5	12053	33.70	53	25.33	4½	5½
12014	10.60	14	6.74	4½	5	12054	34.40	54	25.80	4½	5½
12015	11.00	15	7.21	4½	5	12055	35.10	55	26.27	4½	5½
12016	11.45	16	7.69	4½	5	12056	35.80	56	26.75	4½	5½
12017	11.90	17	8.16	4½	5	12057	36.50	57	27.23	4½	5½
12018	12.35	18	8.64	4½	5	12058	37.20	58	27.71	4½	5½
12019	12.80	19	9.11	4½	5	12059	37.90	59	28.18	4½	5½
12020	13.25	20	9.59	4½	5	12060	38.60	60	28.66	4½	5½
12021	13.70	21	10.03	4½	5	12061	39.20	61	29.14	4½	5½
12022	14.15	22	10.54	4½	5	12062	39.80	62	29.61	4½	5½
12023	14.60	23	11.02	4½	5	12063	40.40	63	30.09	4½	6
12024	15.05	24	11.49	4½	5	12064	41.00	64	30.57	4½	6
12025	15.50	25	11.97	4½	5	12065	41.60	65	31.05	4½	6
12026	15.90	26	12.44	4½	5½	12066	42.20	66	31.52	4½	6
12027	16.30	27	12.92	4½	5½	12067	42.80	67	31.99	4½	6
12028	16.75	28	13.40	4½	5½	12068	43.40	68	32.48	4½	6
12029	17.20	29	13.87	4½	5½	12069	44.00	69	32.95	4½	6
12030	17.60	30	14.35	4½	5½	12070	44.60	70	33.43	4½	6
12031	18.30	31	14.82	4½	5½	12071	45.20	71	33.91	4½	6
12032	19.00	32	15.30	4½	5½	12072	45.80	72	34.39	4½	6
12033	19.70	33	15.78	4½	5½	12073	46.40	73	34.87	4½	6
12034	20.40	34	16.26	4½	5½	12074	47.00	74	35.34	4½	6
12035	21.10	35	16.73	4½	5½	12075	47.60	75	35.82	4½	6
12036	21.80	36	17.21	4½	5½	12076	48.20	76	36.30	4½	6½
12037	22.50	37	17.69	4½	5½	12077	48.80	77	36.77	4½	6½
12038	23.20	38	18.16	4½	5½	12078	49.40	78	37.26	4½	6½
12039	23.90	39	18.64	4½	5½	12079	50.00	79	37.73	4½	6½
12040	24.60	40	19.12	4½	5½	12080	50.60	80	38.21	4½	6½
12041	25.30	41	19.60	4½	5½	12081	51.20	81	38.68	4½	6½
12042	26.00	42	20.07	4½	5½	12082	51.80	82	39.16	4½	6½
12043	26.70	43	20.55	4½	5½	12083	52.40	83	39.64	4½	6½
12044	27.40	44	21.03	4½	5½	12084	53.00	84	40.12	4½	6½
12045	28.10	45	21.50	4½	5½	12085	53.60	85	40.59	4½	6½
12046	28.80	46	21.98	4½	5½	12086	54.20	86	41.07	4½	6½
12047	29.50	47	22.46	4½	5½	12087	54.80	87	41.55	4½	6½
12048	30.20	48	22.93	4½	5½	12088	55.40	88	42.02	4½	6½
12049	30.90	49	23.41	4½	5½	12089	56.00	89	42.50	4½	6½



Cast-Iron Spur Gears

1½-Inch Pitch

Cast-iron spur gears 1½-inch pitch, 4½-inch face, under ordinary conditions, will transmit 8.26 horse power at 100 feet per minute on the pitch line, 12.60 horse power at 200 feet, 16.47 horse power at 300 feet, 23.08 horse power at 500 feet, 30.66 horse power at 750 feet, 37.04 horse power at 1,000 feet, 43.00 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
12090	\$56.60	90	42.98	4½	6½	12109	\$ 68.00	109	52.05	4½	7
12091	57.20	91	43.46	4½	6½	12110	68.60	110	52.53	4½	7
12092	57.80	92	43.94	4½	6½	12111	69.20	111	53.00	4½	7
12093	58.40	93	44.42	4½	6½	12112	69.80	112	53.47	4½	7
12094	59.00	94	44.89	4½	6½	12113	70.40	113	53.96	4½	7
12095	59.60	95	45.43	4½	6½	12114	71.00	114	54.44	4½	7
12096	60.20	96	45.84	4½	6½	12120	74.60	120	57.30	4½	7
12097	60.80	97	46.32	4½	6½	12124	77.00	124	59.21	4½	7
12098	61.40	98	46.80	4½	6½	12125	77.60	125	59.69	4½	7
12099	62.00	99	47.28	4½	6½	12130	80.60	130	62.08	4½	7½
12100	62.60	100	47.75	4½	6½	12147	93.35	147	70.19	4½	7½
12101	63.20	101	48.23	4½	7	12150	95.60	150	71.63	4½	7½
12102	63.80	102	48.71	4½	7	12156	100.10	156	74.49	4½	8
12103	64.40	103	49.18	4½	7	12166	107.60	166	79.26	4½	8
12104	65.00	104	49.66	4½	7	12196	130.10	196	93.58	4½	9
12105	65.60	105	50.14	4½	7	12204	136.10	204	97.40	4½	9
12106	66.20	106	50.62	4½	7						

1¾-Inch Pitch

Cast-iron spur gears 1¾-inch pitch, 5½-inch face, under ordinary conditions, will transmit 11.78 horse power at 100 feet per minute on the pitch line, 17.99 horse power at 200 feet, 23.48 horse power at 300 feet, 32.91 horse power at 500 feet, 43.73 horse power at 750 feet, 52.82 horse power at 1000 feet, 61.32 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

14010	\$12.30	10	5.66	5½	6	14051	\$38.45	51	28.42	5½	6¾
14011	12.90	11	6.21	5½	6	14052	39.10	52	28.98	5½	6¾
14012	13.50	12	6.76	5½	6	14053	39.80	53	29.54	5½	6¾
14013	14.10	13	7.31	5½	6	14054	40.45	54	30.10	5½	7
14014	14.70	14	7.86	5½	6	14055	41.10	55	30.65	5½	7
14015	15.30	15	8.42	5½	6	14056	41.75	56	31.21	5½	7
14016	15.90	16	8.97	5½	6	14057	42.45	57	31.77	5½	7
14017	16.55	17	9.52	5½	6	14058	43.15	58	32.32	5½	7
14018	17.20	18	10.08	5½	6	14059	43.85	59	32.88	5½	7
14019	17.80	19	10.63	5½	6	14060	44.55	60	33.44	5½	7
14020	18.40	20	11.19	5½	6	14061	45.25	61	34.00	5½	7
14021	19.00	21	11.74	5½	6	14062	45.95	62	34.55	5½	7½
14022	19.60	22	12.30	5½	6	14063	46.65	63	35.11	5½	7½
14023	20.25	23	12.85	5½	6½	14064	47.35	64	35.66	5½	7½
14024	20.90	24	13.41	5½	6½	14065	48.05	65	36.22	5½	7½
14025	21.50	25	13.96	5½	6½	14066	48.80	66	36.78	5½	7½
14026	22.15	26	14.52	5½	6½	14067	49.55	67	37.33	5½	7½
14027	22.80	27	15.07	5½	6½	14068	50.30	68	37.89	5½	7½
14028	23.45	28	15.63	5½	6½	14069	51.05	69	38.45	5½	7½
14029	24.05	29	16.19	5½	6½	14070	51.80	70	39.01	5½	7½
14030	24.65	30	16.74	5½	6½	14071	52.50	71	39.56	5½	7½
14031	25.30	31	17.29	5½	6½	14072	53.20	72	40.12	5½	7½
14032	25.95	32	17.85	5½	6½	14073	53.95	73	40.67	5½	7½
14033	26.65	33	18.41	5½	6½	14074	54.70	74	41.23	5½	7½
14034	27.30	34	18.97	5½	6½	14075	55.45	75	41.79	5½	7½
14035	27.95	35	19.52	5½	6½	14076	56.20	76	42.35	5½	7½
14036	28.60	36	20.08	5½	6½	14077	56.95	77	42.91	5½	7½
14037	29.25	37	20.64	5½	6½	14078	57.80	78	43.46	5½	7½
14038	29.90	38	21.19	5½	6½	14079	58.65	79	44.02	5½	7½
14039	30.55	39	21.75	5½	6½	14080	59.50	80	44.57	5½	7½
14040	31.15	40	22.30	5½	6½	14081	60.35	81	45.12	5½	7½
14041	31.80	41	22.86	5½	6½	14082	61.25	82	45.68	5½	7½
14042	32.45	42	23.42	5½	6½	14083	62.15	83	46.24	5½	7½
14043	33.10	43	23.97	5½	6½	14084	63.05	84	46.80	5½	7½
14044	33.75	44	24.53	5½	6¾	14085	63.95	85	47.36	5½	7½
14045	34.40	45	25.09	5½	6¾	14086	64.85	86	47.92	5½	7½
14046	35.05	46	25.64	5½	6¾	14087	65.75	87	48.47	5½	7½
14047	35.70	47	26.20	5½	6¾	14088	66.65	88	49.03	5½	8
14048	36.40	48	26.76	5½	6¾	14089	67.60	89	49.58	5½	8
14049	37.10	49	27.31	5½	6¾	14090	68.55	90	50.14	5½	8
14050	37.75	50	27.87	5½	6¾	14091	69.50	91	50.69	5½	8
						14093	71.40	93	51.81	5½	8



Cast-Iron Spur Gears

1 $\frac{3}{4}$ -Inch Pitch

Cast-iron spur gears 1 $\frac{3}{4}$ -inch pitch, 5 $\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 11.78 horse power at 100 feet per minute on the pitch line, 17.99 horse power at 200 feet, 23.48 horse power at 300 feet, 32.91 horse power at 500 feet, 43.73 horse power at 750 feet, 52.82 horse power at 1,000 feet, 61.32 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
14094	\$72.35	94	52.37	5 $\frac{1}{2}$	8	14120	\$100.30	120	66.84	5 $\frac{1}{2}$	8 $\frac{1}{2}$
14100	78.20	100	55.71	5 $\frac{1}{2}$	8	14122	102.90	122	67.96	5 $\frac{1}{2}$	8 $\frac{1}{2}$
14104	82.20	104	57.94	5 $\frac{1}{2}$	8	14124	105.50	124	69.08	5 $\frac{1}{2}$	8 $\frac{1}{2}$
14107	85.40	107	59.61	5 $\frac{1}{2}$	8 $\frac{1}{2}$	14130	113.25	130	72.42	5 $\frac{1}{2}$	9
14110	88.70	110	61.28	5 $\frac{1}{2}$	8 $\frac{1}{2}$	14140	127.50	140	77.99	5 $\frac{1}{2}$	9
14112	91.10	112	62.40	5 $\frac{1}{2}$	8 $\frac{1}{2}$	14142	130.00	142	79.11	5 $\frac{1}{2}$	9
14116	95.70	116	64.67	5 $\frac{1}{2}$	8 $\frac{1}{2}$	14150	140.00	150	83.56	5 $\frac{1}{2}$	9

2-Inch Pitch

Cast-iron spur gears 2-inch pitch, 6-inch face, under ordinary conditions, will transmit 14.69 horse power at 100 feet per minute on the pitch line, 22.44 horse power at 200 feet, 29.28 horse power at 300 feet, 41.03 horse power at 500 feet, 54.52 horse power at 750 feet, 65.84 horse power at 1,000 feet, 76.45 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

16010	\$16.10	10	6.47	6	6 $\frac{1}{2}$	16059	\$ 59.45	59	37.58	6	8
16011	16.95	11	7.10	6	6 $\frac{1}{2}$	16060	60.40	60	38.21	6	8
16012	17.80	12	7.73	6	6 $\frac{1}{2}$	16061	61.35	61	38.85	6	8
16013	18.65	13	8.36	6	6 $\frac{1}{2}$	16062	62.30	62	39.49	6	8
16014	19.45	14	8.99	6	6 $\frac{1}{2}$	16063	63.25	63	40.12	6	8
16015	20.30	15	9.62	6	6 $\frac{1}{2}$	16064	64.20	64	40.76	6	8
16016	21.15	16	10.25	6	6 $\frac{1}{2}$	16065	65.20	65	41.40	6	8
16017	22.05	17	10.88	6	6 $\frac{1}{2}$	16066	66.20	66	42.03	6	8
16018	22.95	18	11.52	6	6 $\frac{1}{2}$	16067	67.20	67	42.67	6	8
16019	23.85	19	12.15	6	6 $\frac{1}{2}$	16068	68.20	68	43.29	6	8
16020	24.75	20	12.78	6	6 $\frac{1}{2}$	16069	69.20	69	43.94	6	8
16021	25.65	21	13.42	6	6 $\frac{1}{2}$	16070	70.20	70	44.58	6	8
16022	26.50	22	14.05	6	6 $\frac{1}{2}$	16071	71.20	71	45.20	6	8
16023	27.35	23	14.69	6	6 $\frac{1}{2}$	16072	72.20	72	45.84	6	8
16024	28.25	24	15.32	6	6 $\frac{1}{2}$	16073	73.25	73	46.48	6	8
16025	29.10	25	15.96	6	6 $\frac{1}{2}$	16074	74.30	74	47.12	6	8
16026	30.00	26	16.59	6	6 $\frac{1}{2}$	16075	75.30	75	47.76	6	8
16027	30.85	27	17.23	6	6 $\frac{1}{2}$	16076	76.30	76	48.40	6	8 $\frac{1}{2}$
16028	31.70	28	17.86	6	6 $\frac{1}{2}$	16077	77.40	77	49.04	6	8 $\frac{1}{2}$
16029	32.55	29	18.50	6	6 $\frac{1}{2}$	16078	78.50	78	49.67	6	8 $\frac{1}{2}$
16030	33.40	30	19.13	6	7	16079	79.60	79	50.31	6	8 $\frac{1}{2}$
16031	34.30	31	19.77	6	7	16080	80.75	80	50.94	6	8 $\frac{1}{2}$
16032	35.15	32	20.40	6	7	16081	81.90	81	51.58	6	8 $\frac{1}{2}$
16033	36.00	33	21.04	6	7	16084	85.25	84	53.49	6	8 $\frac{1}{2}$
16034	36.90	34	21.68	6	7	16085	86.35	85	54.13	6	8 $\frac{1}{2}$
16035	37.80	35	22.31	6	7	16086	87.55	86	54.76	6	8 $\frac{1}{2}$
16036	38.65	36	22.95	6	7	16088	89.90	88	56.03	6	8 $\frac{1}{2}$
16037	39.50	37	23.58	6	7 $\frac{1}{4}$	16090	92.20	90	57.31	6	8 $\frac{1}{2}$
16038	40.40	38	24.22	6	7 $\frac{1}{4}$	16092	94.55	92	58.58	6	8 $\frac{1}{2}$
16039	41.30	39	24.85	6	7 $\frac{1}{4}$	16094	96.95	94	59.85	6	8 $\frac{1}{2}$
16040	42.20	40	25.49	6	7 $\frac{1}{4}$	16095	98.20	95	60.49	6	9
16041	43.10	41	26.13	6	7 $\frac{1}{4}$	16096	99.40	96	61.13	6	9
16042	44.00	42	26.76	6	7 $\frac{1}{4}$	16098	101.90	98	62.40	6	9
16043	44.90	43	27.40	6	7 $\frac{1}{4}$	16100	104.50	100	63.67	6	9
16044	45.80	44	28.04	6	7 $\frac{1}{4}$	16101	105.80	101	64.31	6	9
16045	46.65	45	28.67	6	7 $\frac{1}{4}$	16102	107.10	102	64.95	6	9
16046	47.55	46	29.31	6	7 $\frac{1}{4}$	16103	108.40	103	65.58	6	9
16047	48.40	47	29.94	6	7 $\frac{1}{4}$	16104	109.70	104	66.22	6	9
16048	49.25	48	30.58	6	7 $\frac{1}{2}$	16108	115.15	108	68.76	6	9
16049	50.15	49	31.22	6	7 $\frac{1}{2}$	16109	116.55	109	69.40	6	9
16050	51.05	50	31.85	6	7 $\frac{1}{2}$	16112	117.95	110	70.04	6	9
16051	51.95	51	32.49	6	7 $\frac{1}{2}$	16113	120.80	112	71.31	6	9
16052	52.90	52	33.12	6	7 $\frac{1}{2}$	16114	122.20	113	71.94	6	9
16053	53.85	53	33.76	6	7 $\frac{1}{2}$	16116	123.60	114	72.58	6	9 $\frac{1}{2}$
16054	54.80	54	34.39	6	7 $\frac{1}{2}$	16117	126.70	116	73.86	6	9 $\frac{1}{2}$
16055	55.70	55	35.03	6	7 $\frac{1}{2}$	16120	128.20	117	74.49	6	9 $\frac{1}{2}$
16056	56.60	56	35.67	6	7 $\frac{1}{2}$	16120	132.90	120	76.40	6	9 $\frac{1}{2}$
16057	57.55	57	36.30	6	8	16126	142.80	126	80.22	6	9 $\frac{1}{2}$
16058	58.50	58	36.94	6	8	16140	168.50	140	89.13	6	9 $\frac{1}{2}$



Cast-Iron Spur Gears

2¼-Inch Pitch

Cast-iron spur gears 2¼-inch pitch, 7-inch face under ordinary conditions, will transmit 19.28 horse power at 100 feet per minute on the pitch line, 29.5 horse power at 200 feet, 38.4 horse power at 300 feet, 53.85 horse power at 500 feet, 71.5 horse power at 750 feet, 86.42 horse power at 1,000 feet, 100.4 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
18010	\$19.80	10	7.28	7	7½	18049	\$ 63.40	49	35.12	7	8½
18011	20.90	11	7.99	7	7½	18050	64.60	50	35.83	7	8½
18012	22.00	12	8.69	7	7½	18051	65.85	51	36.52	7	9
18013	23.10	13	9.40	7	7½	18052	67.10	52	37.27	7	9
18014	24.20	14	10.11	7	7½	18053	68.35	53	37.98	7	9
18015	25.25	15	10.82	7	7½	18054	69.60	54	38.70	7	9
18016	26.35	16	11.53	7	7½	18055	70.80	55	39.41	7	9
18017	27.40	17	12.24	7	7½	18056	72.00	56	40.13	7	9
18018	28.50	18	12.96	7	7½	18057	73.30	57	40.84	7	9
18020	30.70	20	14.38	7	7½	18058	74.55	58	41.56	7	9
18021	31.80	21	15.09	7	7½	18059	75.85	59	42.28	7	9
18022	32.85	22	15.81	7	7½	18060	77.15	60	42.99	7	9
18025	36.00	25	17.95	7	7½	18061	78.40	61	43.71	7	9
18026	37.15	26	18.67	7	7½	18062	79.65	62	44.42	7	9
18027	38.30	27	19.38	7	8	18063	80.90	63	45.14	7	9
18028	39.40	28	20.10	7	8	18064	82.15	64	45.85	7	9
18029	40.50	29	20.81	7	8	18065	83.55	65	46.57	7	9
18030	41.60	30	21.52	7	8	18066	84.95	66	47.29	7	9
18031	42.70	31	22.24	7	8	18067	86.35	67	48.00	7	9
18032	43.80	32	22.95	7	8	18068	87.75	68	48.72	7	9½
18033	44.90	33	23.67	7	8	18069	89.25	69	49.44	7	9½
18034	46.00	34	24.39	7	8½	18070	90.75	70	50.15	7	9½
18035	47.10	35	25.10	7	8½	18071	92.25	71	50.87	7	9½
18036	48.25	36	25.82	7	8½	18072	93.75	72	51.58	7	9½
18037	49.35	37	26.53	7	8½	18080	106.00	80	57.31	7	9½
18038	50.50	38	27.25	7	8½	18081	107.35	81	58.03	7	9½
18039	51.60	39	27.96	7	8½	18084	112.25	84	60.16	7	10
18040	52.75	40	28.68	7	8½	18085	113.75	85	60.89	7	10
18041	53.85	41	29.39	7	8½	18088	118.40	88	63.04	7	10
18042	55.00	42	30.11	7	8½	18090	121.75	90	64.47	7	10
18043	56.20	43	30.82	7	8½	18091	123.55	91	65.19	7	10
18044	57.40	44	31.54	7	8½	18092	125.20	92	65.90	7	10
18045	58.65	45	32.26	7	8½	18096	132.20	96	68.77	7	10
18046	59.85	46	32.97	7	8½	18097	134.05	97	69.48	7	10
18047	61.05	47	33.68	7	8½	18100	139.40	100	71.63	7	10
18048	62.25	48	34.40	7	8½	18104	146.30	104	74.49	7	10½

2½-Inch Pitch

Cast-iron spur gears 2½-inch pitch, 7½-inch face, under ordinary conditions, will transmit 22.95 horse power at 100 feet per minute on the pitch line, 35.06 horse power at 200 feet, 45.7 horse power at 300 feet, 64.1 horse power at 500 feet, 85.2 horse power at 750 feet, 102.9 horse power at 1,000 feet 119.5 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

20010	\$23.85	10	8.09	7½	8	20037	\$66.35	37	29.49	7½	9
20011	25.30	11	8.88	7½	8	20038	68.00	38	30.27	7½	9
20012	26.80	12	9.66	7½	8	20039	69.65	39	31.07	7½	9
20013	28.35	13	10.45	7½	8	20040	71.35	40	31.86	7½	9
20014	29.90	14	11.23	7½	8	20041	73.00	41	32.65	7½	9
20015	31.45	15	12.03	7½	8	20042	74.60	42	33.45	7½	9
20016	33.00	16	12.81	7½	8½	20043	76.20	43	34.25	7½	9
20017	34.50	17	13.60	7½	8½	20044	77.80	44	35.04	7½	9
20018	36.05	18	14.40	7½	8½	20045	79.40	45	35.84	7½	9
20019	37.55	19	15.19	7½	8½	20046	81.00	46	36.64	7½	9½
20020	39.10	20	15.98	7½	8½	20047	82.65	47	37.43	7½	9½
20021	40.65	21	16.77	7½	8½	20048	84.30	48	38.22	7½	9½
20022	42.20	22	17.57	7½	8½	20049	86.00	49	39.02	7½	9½
20023	43.80	23	18.31	7½	8½	20050	87.65	50	39.82	7½	9½
20024	45.40	24	19.15	7½	8½	20051	89.35	51	40.62	7½	9½
20025	47.05	25	19.95	7½	8½	20052	91.05	52	41.41	7½	9½
20026	48.70	26	20.74	7½	8½	20053	92.70	53	42.20	7½	9½
20027	50.35	27	21.53	7½	8½	20054	94.45	54	43.00	7½	9½
20028	51.95	28	22.33	7½	8½	20055	96.20	55	43.79	7½	9½
20029	53.50	29	23.12	7½	8½	20056	97.95	56	44.58	7½	9½
20030	55.10	30	23.92	7½	8½	20057	99.70	57	45.38	7½	9½
20031	56.70	31	24.71	7½	8½	20058	101.45	58	46.18	7½	9½
20032	58.25	32	25.51	7½	8½	20059	103.20	59	46.98	7½	9½
20033	59.85	33	26.30	7½	8½	20060	104.95	60	47.77	7½	9½
20034	61.50	34	27.09	7½	8½	20061	106.70	61	48.57	7½	9½
20035	63.10	35	27.89	7½	8½	20062	108.45	62	49.36	7½	9½
20036	64.70	36	28.68	7½	8½	20063	110.25	63	50.15	7½	10



Cast-Iron Spur Gears

2½-Inch Pitch

Cast-iron spur gears 2½-inch pitch, 7½-inch face, under ordinary conditions, will transmit 22.95 horse power at 100 feet per minute on the pitch line, 35.06 horse power at 200 feet, 45.7 horse power at 300 feet, 64.1 horse power at 500 feet, 85.2 horse power at 750 feet, 102.9 horse power at 1,000 feet, 119.5 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
20064	\$112.05	61	50.95	7½	10	20085	\$151.40	85	67.66	7½	10½
20065	113.85	65	51.74	7½	10	20088	157.30	88	70.04	7½	10½
20066	115.65	66	52.54	7½	10	20090	161.30	90	71.63	7½	10½
20068	119.25	68	54.13	7½	10	20092	165.70	92	73.23	7½	11
20070	122.65	70	55.72	7½	10	20096	174.10	96	76.41	7½	11
20072	126.35	72	57.31	7½	10	20098	178.55	98	78.00	7½	11
20074	130.05	74	58.90	7½	10	20102	187.75	102	81.18	7½	11
20076	133.90	76	60.50	7½	10½	20105	194.50	105	83.56	7½	11½
20080	141.65	80	63.68	7½	10½	20106	196.75	106	84.36	7½	11½
20082	145.35	82	65.27	7½	10½	20113	213.00	113	89.93	7½	11½

2¾-Inch Pitch

Cast-iron spur gears 2¾-inch pitch, 8-inch face, under ordinary conditions, will transmit 26.93 horse power at 100 feet per minute on the pitch line, 41.1 horse power at 200 feet, 53.7 horse power at 300 feet, 75.2 horse power at 500 feet, 100 horse power at 750 feet, 121 horse power at 1,000 feet, 140 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

22011	\$30.20	11	9.76	8	8½	22042	\$98.40	42	36.80	8	9½
22012	32.40	12	10.63	8	8½	22043	100.60	43	37.68	8	9½
22013	34.60	13	11.49	8	8½	22044	102.80	44	38.55	8	10
22014	36.80	14	12.36	8	8½	22045	105.00	45	39.43	8	10
22015	39.00	15	13.23	8	8½	22046	107.20	46	40.30	8	10
22016	41.20	16	14.10	8	9	22047	109.40	47	41.18	8	10
22017	43.40	17	14.97	8	9	22048	111.60	48	42.05	8	10
22019	47.80	19	16.71	8	9	22049	113.80	49	42.92	8	10
22020	50.00	20	17.58	8	9	22050	116.00	50	43.80	8	10
22021	52.20	21	18.45	8	9	22051	118.20	51	44.67	8	10
22022	54.40	22	19.32	8	9	22052	120.40	52	45.55	8	10
22023	56.60	23	20.20	8	9	22053	122.60	53	46.42	8	10
22024	58.80	24	21.07	8	9	22054	124.80	54	47.30	8	10
22025	61.00	25	21.94	8	9	22055	127.00	55	48.17	8	10½
22026	63.20	26	22.81	8	9	22056	129.20	56	49.04	8	10½
22027	65.40	27	23.69	8	9	22057	131.40	57	49.92	8	10½
22028	67.60	28	24.57	8	9	22058	133.60	58	50.79	8	10½
22029	69.80	29	25.44	8	9	22059	135.80	59	51.67	8	10½
22030	72.00	30	26.31	8	9	22060	138.00	60	52.55	8	10½
22031	74.20	31	27.18	8	9½	22062	142.40	62	54.29	8	10½
22032	76.40	32	28.06	8	9½	22064	147.00	64	56.04	8	10½
22033	78.60	33	28.93	8	9½	22067	154.00	67	58.67	8	10½
22034	80.80	34	29.80	8	9½	22069	159.10	69	60.42	8	11
22035	83.00	35	30.68	8	9½	22070	161.50	70	61.30	8	11
22036	85.20	36	31.56	8	9½	22072	166.10	72	63.05	8	11
22037	87.40	37	32.43	8	9½	22073	168.50	73	63.92	8	11
22038	89.60	38	33.30	8	9½	22078	180.50	78	68.29	8	11
22039	91.80	39	34.18	8	9½	22080	185.00	80	70.04	8	11
22040	94.00	40	35.06	8	9½	22082	190.80	82	71.80	8	11
22041	96.20	41	35.93	8	9½	22086	200.50	86	75.30	8	11½

3-Inch Pitch

Cast-iron spur gears 3-inch pitch, 9-inch face, under ordinary conditions, will transmit 33.05 horse power at 100 feet per minute on the pitch line, 50.5 horse power at 200 feet, 65.9 horse power at 300 feet, 92.3 horse power at 500 feet, 123 horse power at 750 feet, 148 horse power at 1,000 feet, 172 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

24010	\$33.90	10	9.71	9	9½	24029	\$ 87.85	29	27.74	9	10
24012	39.75	12	11.59	9	9½	24031	93.65	31	29.65	9	10½
24013	42.65	13	12.53	9	9½	24032	96.60	32	30.61	9	10½
24014	45.55	14	13.48	9	9½	24034	102.45	34	32.51	9	10½
24015	48.25	15	14.43	9	9½	24035	105.35	35	33.49	9	10½
24016	50.90	16	15.38	9	9½	24036	108.25	36	34.42	9	10½
24017	53.80	17	16.33	9	10	24038	114.00	38	36.33	9	11
24018	56.70	18	17.27	9	10	24040	120.00	40	38.24	9	11
24021	64.90	21	20.13	9	10	24042	125.75	42	40.14	9	11
24022	67.80	22	21.08	9	10	24043	129.25	43	41.10	9	11
24023	70.70	23	22.03	9	10	24044	132.75	44	42.05	9	11
24024	73.60	24	22.99	9	10	24047	143.25	47	44.92	9	11
24025	76.25	25	23.94	9	10	24048	146.75	48	45.87	9	11
24026	79.15	26	24.89	9	10	24050	153.75	50	47.78	9	11
24027	82.05	27	25.84	9	10	24052	161.00	52	49.69	9	11½

Cast-Iron Spur Gears

3-Inch Pitch

Cast-iron spur gears 3-inch pitch, 9-inch face, under ordinary conditions, will transmit 33.05 horse power at 100 feet per minute on the pitch line, 50.5 horse power at 200 feet, 65.9 horse power at 300 feet, 92.3 horse power at 500 feet, 123 horse power at 750 feet, 148 horse power at 1,000 feet, 172 horse power at 1,250 feet. Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length through Hub, Inches
24054	\$168.00	54	51.59	9	11 1/4	24082	\$258.00	82	78.31	9	12 1/4
24055	171.00	55	52.55	9	11 1/4	24084	265.00	84	80.23	9	12 1/4
24056	174.00	56	53.50	9	11 1/4	24088	280.00	88	84.05	9	12 1/4
24058	180.00	58	55.41	9	11 1/4	24098	320.00	98	93.60	9	13
24060	186.00	60	57.32	9	11 1/4	24100	328.00	100	95.51	9	13
24062	193.00	62	59.23	9	11 1/4	24102	337.00	102	97.42	9	13
24063	196.00	63	60.19	9	12	24105	352.00	105	100.28	9	13
24064	199.00	64	61.14	9	12	24114	394.00	114	108.88	9	13 1/4
24066	205.00	66	63.05	9	12	24116	405.00	116	110.78	9	14
24068	212.00	68	64.96	9	12	24120	427.00	120	114.60	9	14
24069	215.00	69	65.91	9	12	24126	463.00	126	120.33	9	14 1/4
24072	225.00	72	68.78	9	12	24129	483.00	129	128.20	9	14 1/4
24074	232.00	74	70.69	9	12	24162	650.00	162	154.70	9	16
24076	238.00	76	72.60	9	12 1/4						

Spur Racks

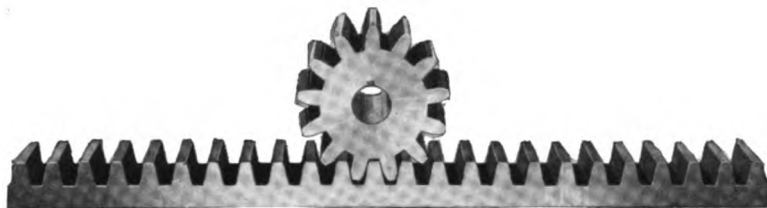


Fig. T-468

List prices cover cast-iron spur racks with cast teeth. Same are made to work with spur pinions of equivalent pitch listed on previous pages under heading of cast-iron spur gears.

Price List

Pattern Number	Price per Foot	Number of Teeth	Face, Inches	Pitch, Inches	Length
6032	\$.60	32	1 3/4	3/4	2 ft. 0 in.
6096	.60	96	1 3/4	3/4	6 " 0 "
8036	.80	36	2 1/2	1	3 " 0 "
8048	.80	48	2 1/2	1	4 " 0 "
9032	1.00	32	3	1 1/8	3 " 0 "
9064	1.00	64	3	1 1/8	6 " 0 "
10034	1.25	34	3 1/2	1 1/4	3 " 6 1/2 "
10039-A	1.10	39	3	1 1/4	4 " 0 3/4 "
10048	1.25	48	3 1/2	1 1/4	5 " 0 "
12024	1.75	24	4 1/2	1 1/2	3 " 0 "
12032	1.75	32	4 1/2	1 1/2	4 " 0 "
12048	1.75	48	4 1/2	1 1/2	6 " 0 "
13015	2.25	15	5	1 5/8	2 " 0 3/8 "
14036	3.00	36	5 1/2	1 3/4	5 " 3 "
16012	3.75	12	6	2	2 " 0 "
18016	4.75	16	7	2 1/4	3 " 0 "
24012	8.00	12	9	3	3 " 0 "

Prices for cast-iron gears of sizes not listed in this catalog also different types of machine cut gears, either raw hide, steel, bronze or cast iron, will be quoted upon application.

Cast-Iron Bevel Gears in Pairs

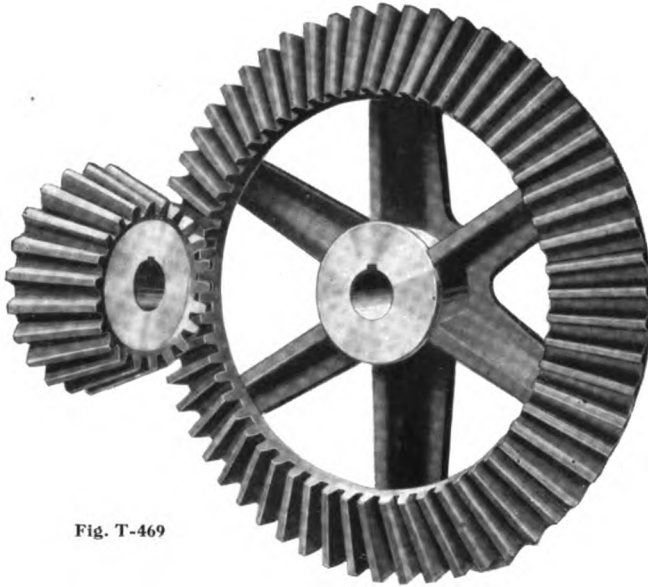


Fig. T-469

Gears of this type are manufactured by the machine molding process. The teeth are molded from a single tooth pattern, and the spacing is accomplished by accurate machinery. A machine molded gear is more accurate, better balanced and as nearly perfect as it is possible to make a cast tooth wheel.

Prices given in the following lists are for gears bored to exact size with taper keyseats.

Setscrews alone should not be depended upon to hold bevel gears in position.

Bevel gears run in pairs only, that is, the pinion of one pair, as given in the following list, will not run with the gear of another pair at right angles.

$\frac{3}{4}$ -Inch Pitch

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length through Hub, Inches	Speed Ratio	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length through Hub, Inches	Speed Ratio
2 $\frac{3}{4}$ 21	\$3.30	21	5.03	1 $\frac{1}{2}$	$\frac{3}{4}$	1 $\frac{9}{16}$	1.61	62151	\$12.30	112	26.74	1 $\frac{3}{4}$	2 $\frac{3}{4}$	3	2.15
2 $\frac{3}{4}$ 13	2.50	13	3.13	1 $\frac{1}{2}$	1 $\frac{1}{4}$	2 $\frac{3}{8}$		62152	6.15	52	12.42	1 $\frac{3}{4}$	$\frac{2}{3}$	2 $\frac{3}{8}$	
61501-A	5.55	42	10.04	2	1 $\frac{7}{8}$	3 $\frac{1}{4}$	1.50	2 $\frac{3}{4}$ 45	6.25	45	10.75	1 $\frac{3}{4}$	1 $\frac{1}{4}$	1 $\frac{7}{8}$	3.00
61502-A	3.95	28	6.69	2	$\frac{3}{4}$	2 $\frac{11}{16}$		2 $\frac{3}{4}$ 15	2.65	15	3.61	1 $\frac{3}{4}$	$\frac{1}{4}$	1 $\frac{1}{4}$	
2 $\frac{3}{4}$ 34	4.80	34	8.13	2	$\frac{7}{8}$	1 $\frac{7}{8}$	1.70	63941	8.90	67	16.00	1 $\frac{3}{4}$	2 $\frac{7}{8}$	2 $\frac{3}{8}$	3.94
2 $\frac{3}{4}$ 20	3.20	20	4.79	2	$\frac{1}{2}$	2 $\frac{3}{8}$		63942	2.80	17	4.08	1 $\frac{3}{4}$	$\frac{1}{8}$	2	
62001	4.75	34	8.13	1 $\frac{3}{4}$	1 $\frac{11}{16}$	2 $\frac{5}{8}$	2.00	2 $\frac{3}{4}$ 56	7.75	56	13.38	2	2 $\frac{1}{8}$	2 $\frac{5}{8}$	4.00
62002	2.80	17	4.08	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{8}$		2 $\frac{3}{4}$ 14	2.60	14	3.37	2	$\frac{3}{8}$	2 $\frac{1}{8}$	
2 $\frac{3}{4}$ 42	5.55	42	10.04	2	1 $\frac{1}{2}$	2 $\frac{1}{8}$	2.00	67071	11.00	92	21.96	1 $\frac{3}{4}$	4 $\frac{3}{8}$	5	7.07
2 $\frac{3}{4}$ 21-A	3.25	21	5.03	2	$\frac{5}{8}$	2 $\frac{3}{8}$		67072	2.60	13	3.13	1 $\frac{3}{4}$	$\frac{1}{4}$	1 $\frac{1}{8}$	

$\frac{7}{8}$ -Inch Pitch

71871	\$5.80	30	8.37	2	2	3	1.87	73291	\$9.00	56	15.61	2	2 $\frac{7}{8}$	2 $\frac{1}{2}$	3.29
71872	3.00	16	4.48	2	$\frac{1}{16}$	2 $\frac{1}{8}$		73292	3.10	17	4.76	2	$\frac{1}{4}$	2 $\frac{1}{8}$	

1-Inch Pitch

Cast-iron bevel gears 1-inch pitch, 2 $\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 2.14 horse power at 100 feet per minute on the pitch line, 3.22 horse power at 200 feet, 3.96 horse power 300 feet, 5.70 horse power at 500 feet, 7.95 horse power at 750 feet, 9.60 horse power at 1,000 feet, 11.16 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

81221	\$4.50	22	7.03	2 $\frac{1}{2}$	1 $\frac{1}{8}$	2 $\frac{3}{8}$	1.22	81561	\$5.90	28	8.93	2 $\frac{1}{2}$	2 $\frac{5}{8}$	3 $\frac{1}{4}$	1.56
81222	3.95	18	5.76	2 $\frac{1}{2}$	$\frac{5}{8}$	2 $\frac{7}{8}$		81562	3.65	18	5.76	2 $\frac{1}{2}$	1	2 $\frac{1}{8}$	
81331	8.50	48	15.20	2 $\frac{1}{2}$	2 $\frac{1}{8}$	3 $\frac{1}{4}$	1.33	81741	7.52	40	12.75	2 $\frac{1}{2}$	2 $\frac{1}{4}$	3 $\frac{3}{8}$	1.74
81332	0.25	36	11.47	2 $\frac{1}{2}$	1 $\frac{1}{8}$	3 $\frac{1}{8}$		81742	4.40	23	7.34	2 $\frac{1}{2}$	1 $\frac{1}{16}$	2 $\frac{3}{4}$	
81371-A	4.50	22	7.03	2	1 $\frac{1}{8}$	1 $\frac{11}{16}$	1.37	81771-A	7.10	39	12.43	2	2 $\frac{1}{8}$	2 $\frac{11}{16}$	1.77
81372-A	3.25	16	5.13	2	$\frac{3}{4}$	2 $\frac{1}{4}$		81772-A	4.20	22	7.03	2	1 $\frac{1}{8}$	2 $\frac{1}{8}$	
81501	8.50	48	15.20	2 $\frac{1}{2}$	2 $\frac{1}{8}$	3 $\frac{1}{4}$	1.50	81021	8.85	50	15.92	2 $\frac{1}{2}$	2 $\frac{7}{8}$	3 $\frac{3}{8}$	1.92
81502	5.70	32	10.20	2 $\frac{1}{2}$	1 $\frac{1}{8}$	3 $\frac{1}{8}$		81022	4.80	26	8.30	2 $\frac{1}{2}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	



Cast-Iron Bevel Gears in Pairs

1-Inch Pitch—Continued

Cast-iron bevel gears 1-inch pitch, $2\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 2.14 horse power at 100 feet per minute on the pitch line, 3.22 horse power at 200 feet, 3.96 horse power at 300 feet, 5.70 horse power at 500 feet, 7.95 horse power at 750 feet, 9.60 horse power at 1,000 feet, 11.16 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio
82001	\$6.65	36	11.47	$2\frac{1}{2}$	$2\frac{3}{8}$	$3\frac{1}{2}$	2.00	2148-A	\$9.05	48	15.29	$2\frac{1}{2}$	$2\frac{11}{16}$	$3\frac{5}{8}$	3.00
82002	3.65	18	5.76	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{5}{8}$		2116-A	3.35	16	5.13	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{4}$	
82005	5.70	32	10.20	$2\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{3}{4}$		83001	9.05	48	15.29	$2\frac{1}{2}$	$2\frac{11}{16}$	$3\frac{1}{8}$	
82006	3.25	16	5.13	$2\frac{1}{2}$	$\frac{3}{8}$	$2\frac{5}{8}$	2.00	83002	3.35	16	5.13	$2\frac{1}{2}$	$\frac{3}{8}$	$2\frac{3}{4}$	3.00
2148	8.50	48	15.29	$2\frac{1}{2}$	$2\frac{1}{8}$	$3\frac{1}{4}$		83003	7.10	36	11.47	$2\frac{1}{2}$	$2\frac{13}{16}$	$3\frac{5}{8}$	
2124	4.60	24	7.66	$2\frac{1}{2}$	$1\frac{1}{8}$	$3\frac{1}{4}$	2.00	83004	2.85	12	3.86	$2\frac{1}{2}$	$\frac{3}{8}$	$2\frac{5}{8}$	3.00
82007	8.50	48	15.29	$2\frac{1}{2}$	$2\frac{7}{16}$	$3\frac{1}{4}$		83101	12.05	62	19.74	$2\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{8}$	
82008	4.60	24	7.66	$2\frac{1}{2}$	$\frac{5}{8}$	$2\frac{3}{4}$	2.00	83102	3.90	20	6.39	$2\frac{1}{2}$	$\frac{1}{2}$	$2\frac{11}{16}$	3.10
82009	11.50	60	19.11	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{5}{8}$		83331	8.20	40	12.75	$2\frac{1}{2}$	$2\frac{3}{8}$	$3\frac{1}{8}$	
820010	6.30	30	9.57	$2\frac{1}{2}$	$\frac{1}{2}$	$2\frac{5}{8}$	2.00	83332	2.85	12	3.86	$2\frac{1}{2}$	$\frac{3}{8}$	$2\frac{5}{8}$	3.33
82111	7.45	38	12.11	$2\frac{1}{2}$	$2\frac{5}{16}$	$3\frac{1}{16}$		83461	9.10	45	14.34	$2\frac{1}{2}$	$2\frac{13}{16}$	$3\frac{1}{8}$	
82112	3.65	18	5.76	$2\frac{1}{2}$	$\frac{5}{8}$	$2\frac{3}{4}$	2.11	83462	2.95	13	4.18	$2\frac{1}{2}$	$\frac{1}{2}$	$2\frac{13}{16}$	3.46
82371-A	8.45	45	14.34	$2\frac{1}{2}$	$2\frac{3}{8}$	$3\frac{1}{8}$		83861	10.70	54	17.20	$2\frac{1}{2}$	$\frac{3}{16}$	$3\frac{1}{4}$	
82372-A	3.75	19	6.08	$2\frac{1}{4}$	$\frac{5}{8}$	$2\frac{5}{16}$	2.37	83862	3.15	14	4.49	$2\frac{1}{2}$	$\frac{1}{16}$	$2\frac{5}{8}$	3.86
82501	6.90	35	11.16	$2\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{8}$		84571	13.25	64	20.38	$2\frac{1}{2}$	$3\frac{1}{16}$	$3\frac{3}{8}$	
82502	3.15	14	4.49	$2\frac{1}{2}$	$\frac{1}{2}$	$2\frac{5}{8}$	2.50	84572	3.15	14	4.49	$2\frac{1}{2}$	$\frac{1}{16}$	$2\frac{13}{16}$	4.57
2142	8.10	42	13.38	$2\frac{1}{2}$	$2\frac{1}{4}$	3		84871	15.75	78	24.84	$2\frac{1}{2}$	$3\frac{1}{16}$	$3\frac{1}{2}$	
2115	3.25	15	4.81	$2\frac{1}{2}$	$\frac{3}{8}$	$2\frac{5}{8}$	2.80	84872	3.35	16	5.13	$2\frac{1}{2}$	$\frac{1}{16}$	$2\frac{3}{4}$	4.87

$1\frac{1}{8}$ -Inch Pitch

Cast-iron bevel gears $1\frac{1}{8}$ -inch pitch, 3-inch face, under ordinary conditions, will transmit 2.89 horse power at 100 feet per minute on the pitch line, 4.34 horse power at 200 feet, 5.34 horse power at 300 feet, 7.69 horse power at 500 feet, 10.73 horse power at 750 feet, 12.97 horse power at 1,000 feet, 15.07 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

91133	\$8.95	34	12.19	3	2	$3\frac{1}{2}$		93441	\$16.05	62	22.21	3	$3\frac{9}{16}$	$3\frac{7}{8}$	
91134	7.45	30	10.76	3	$1\frac{1}{16}$	$3\frac{3}{8}$	1.13	93442	5.05	18	6.48	3	$\frac{9}{16}$	$3\frac{3}{8}$	3.44
91291	7.40	27	9.69	3	$1\frac{13}{16}$	$3\frac{1}{4}$		93601	19.55	72	25.79	3	$3\frac{7}{8}$	$4\frac{1}{8}$	
91292	5.65	21	7.55	3	$\frac{7}{8}$	$3\frac{1}{16}$	1.29	93602	5.40	20	7.19	3	$\frac{7}{16}$	$3\frac{3}{4}$	3.60
91381	14.10	58	20.78	3	$2\frac{1}{2}$	$3\frac{7}{8}$		93851	38.50	100	35.82	3	$4\frac{1}{16}$	$4\frac{1}{2}$	
91382	9.90	42	15.05	3	$1\frac{1}{2}$	$3\frac{3}{4}$	1.38	93852	6.70	26	9.33	3	$\frac{5}{8}$	$3\frac{5}{8}$	3.85
91401	16.70	70	25.07	3	$2\frac{13}{16}$	$4\frac{1}{16}$		94201	23.85	84	30.08	3	$4\frac{3}{16}$	$4\frac{1}{4}$	
91402	11.50	50	17.92	3	$1\frac{11}{16}$	$3\frac{7}{8}$	1.40	94202	5.40	20	7.19	3	$\frac{1}{2}$	$3\frac{3}{16}$	4.20
91761	8.00	30	10.76	3	$2\frac{3}{8}$	$3\frac{3}{8}$		94371	20.30	70	25.07	3	$3\frac{5}{8}$	$3\frac{3}{4}$	
91762	4.80	17	6.12	3	$\frac{3}{4}$	$3\frac{1}{16}$	1.76	94372	4.55	16	5.77	3	$\frac{1}{16}$	$3\frac{1}{4}$	4.37
92101	11.35	42	15.05	3	$2\frac{11}{16}$	$3\frac{5}{8}$		95001-A	29.40	100	35.82	$3\frac{1}{2}$	$4\frac{1}{16}$	$4\frac{1}{4}$	
92102	5.40	20	7.19	3	$1\frac{11}{16}$	$3\frac{3}{4}$	2.10	95002-A	5.65	20	7.19	$3\frac{1}{2}$	$\frac{1}{16}$	$3\frac{11}{16}$	5.00
92103-A	16.30	63	22.57	$3\frac{1}{2}$	$3\frac{5}{16}$	$4\frac{3}{8}$		95401	40.00	108	38.68	3	$4\frac{13}{16}$	$4\frac{11}{16}$	
92104-A	7.45	30	10.76	$3\frac{1}{2}$	1	$3\frac{11}{16}$	2.10	95402	5.40	20	7.19	3	$\frac{9}{16}$	$3\frac{5}{8}$	5.40
92271	13.25	50	17.92	3	$2\frac{13}{16}$	$3\frac{3}{4}$		95541	47.00	122	43.69	3	$5\frac{1}{4}$	$4\frac{13}{16}$	
92272	5.85	22	7.90	3	$\frac{5}{8}$	$3\frac{3}{8}$	2.27	95542	5.85	22	7.90	3	$\frac{1}{16}$	$3\frac{3}{16}$	5.54
92371	10.45	38	13.62	3	$2\frac{11}{16}$	$3\frac{1}{4}$		96001	30.00	81	30.08	3	$4\frac{1}{8}$	$4\frac{1}{16}$	
92372	4.55	16	5.77	3	$\frac{5}{8}$	$3\frac{3}{4}$	2.37	96002	4.20	14	5.06	3	$\frac{1}{16}$	$3\frac{5}{16}$	6.00
93001	18.30	72	25.79	3	$3\frac{9}{16}$	4		96121	38.00	98	35.10	3	$4\frac{1}{2}$	$4\frac{5}{16}$	
93002	6.30	24	8.62	3	$\frac{9}{16}$	$3\frac{5}{8}$	3.00	96122	4.55	16	5.77	3	$\frac{1}{16}$	$3\frac{3}{4}$	6.12

Cast-Iron Bevel Gears in Pairs

1¼-Inch Pitch

Cast-iron bevel gears 1¼-inch pitch, 3½-inch face, under ordinary conditions, will transmit 3.75 horse power at 100 feet per minute on the pitch line, 5.63 horse power at 200 feet, 6.93 horse power at 300 feet, 9.96 horse power at 500 feet, 13.91 horse power at 750 feet, 16.81 horse power at 1,000 feet, 19.54 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length through Hub, Inches	Speed Ratio	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length through Hub, Inches	Speed Ratio
101081	\$ 9.00	26	10.37	3½	1½ ₁₆	4		102861	\$13.90	40	15.93	3½	3¾	4½ ₁₆	
101082	7.90	24	9.58	3½	1½ ₁₆	4	1.08	102862	5.20	14	5.62	3½	3½	3½ ₁₆	2.86
101141	15.75	50	19.91	3½	2½	4¾		21¼74	23.70	74	29.45	3½	3	4¾	
101142	13.05	44	17.52	3½	2	4¾	1.14	21¼25	8.00	25	9.97	3½	¾	3½ ₁₆	2.96
101231	34.00	74	29.45	3½	3	4½ ₁₆		103001	18.15	51	21.50	3½	3¾	3½ ₁₆	
101232	27.30	60	23.88	3½	2¾	4¾	1.23	103002	6.30	18	7.20	3½	¾	3½ ₁₆	3.00
101331-A	24.00	48	19.11	3½	2¾	4¾		103003-A	17.50	45	17.92	3	3	3½	
101332-A	17.00	36	14.34	3½	1½ ₁₆	4¾	1.33	103004-A	5.40	15	6.01	3	¾	3½ ₁₆	3.00
101333-A	16.50	32	12.75	3¼	2	4¾		103231	40.00	84	33.43	3½	4¾	4¾	
101334-A	7.60	24	9.58	3¼	1½	3	1.33	103232	8.40	26	10.37	3½	¾	3¾	3.23
101361-A	8.50	26	10.37	3	1¾	3½		103331	21.15	60	23.88	3½	3¾	4½ ₁₆	
101362-A	6.00	19	7.59	3	¾	2½	1.36	103332	6.30	18	7.20	3½	¾	3½ ₁₆	3.33
101451	17.95	58	23.09	3½	2½ ₁₆	4¾		103461	41.25	90	35.82	3½	4½ ₁₆	5½	
101452	12.05	40	15.93	3½	1½ ₁₆	4¾	1.45	103462	8.40	26	10.37	3½	¾	4	3.46
101461-A	6.65	19	7.59	2½	2	2¾		103601-A	12.80	36	14.34	2½	3¾	3¾	
101462-A	4.65	13	5.22	2¼	1½ ₁₆	2¼	1.46	103602-A	3.75	10	4.04	2½	¾	2¾	3.60
101471	15.75	50	19.91	3½	2½ ₁₆	4¾		104001	24.90	72	28.66	3½	4½	4¾	
101472	10.50	34	13.55	3½	1½ ₁₆	4¾	1.47	104002	6.30	18	7.20	3½	¾	3½ ₁₆	4.00
101581	27.50	60	23.88	3½	3½	4½		104003	17.35	48	19.11	3½	3¾	4	
101582	17.00	38	15.14	3½	1½	4¾	1.58	104004	4.60	12	4.83	3½	¾	3½ ₁₆	4.00
101671	27.50	60	23.88	3½	3½	4½		21¼60-A	20.60	60	23.88	3	2¾	3½ ₁₆	
101672	16.00	36	14.34	3½	1½ ₁₆	4¾	1.67	21¼15-A	5.25	15	6.01	3	¾	3¾	4.00
101751	21.15	70	27.86	3½	3¾	4¾		104221-A	40.00	76	30.25	4	4½	5½	
101752	12.05	40	15.93	3½	1¾	4¾	1.75	104222-A	6.60	18	7.20	4	1½	4½ ₁₆	4.22
101753	11.60	35	13.95	3½	2¾	3¾		104441-A	72.50	142	56.50	4	4¾	4¾	
101754	6.85	20	7.99	3½	1½ ₁₆	3½	1.75	104442-A	16.50	32	12.75	4	1½	4¾	4.44
21¼60	18.10	60	23.88	3	2¾	3¾		104551-A	43.50	82	32.63	4	4½	4¾	
21¼31	9.60	31	12.35	3	1¾	4½	1.93	104552-A	6.60	18	7.20	4	¾	4½ ₁₆	4.55
101951-A	17.00	43	17.13	3	3½	4		104581-A	23.50	55	21.90	4	3½	4½	
101952-A	7.10	22	8.78	3	¾	3¼	1.95	104582-A	4.85	12	4.83	4	¾	4¾	4.58
21¼40	12.90	40	15.93	3	2½	4		104631	38.00	74	29.45	3½	4½	4¾	
21¼20	6.70	20	7.96	3	¾	3½ ₁₆	2.00	104632	5.70	16	6.41	3½	¾	3½ ₁₆	4.63
102005	11.95	36	14.34	3½	2¾	4½		105001	41.25	90	35.82	3½	4½	4½	
102006	6.30	18	7.20	3½	¾	3¾	2.00	105002	6.30	18	7.20	3½	¾	3½ ₁₆	5.00
102007	18.45	60	23.88	3½	3¾	4¾		105831-A	45.00	70	28.00	3½	5	4½	
102008	9.55	30	11.96	3½	1½	4¾	2.00	105832-A	4.85	12	4.80	3½	¾	3½ ₁₆	5.83
102071-A	9.00	27	10.77	3	1½	4		105891	47.50	106	42.19	3½	4¾	4¾	
102072-A	4.75	13	5.22	3	¾	3½	2.07	105892	6.30	18	7.20	3½	¾	3¾	5.89
102501	41.25	90	35.82	3½	4¾	4½ ₁₆		106071-A	42.00	91	36.22	3	4¾	4½	
102502	11.10	36	14.34	3½	1¾	4¾	2.50	106072-A	5.40	15	6.01	3	¾	3½ ₁₆	6.07
102503	19.80	60	23.88	3½	3¾	4½		107001-A	36.50	70	27.86	3	4¼	4½	
102504	7.90	24	9.58	3½	1½	4½ ₁₆	2.50	107002-A	4.00	10	4.04	3	¾	3¼	7.00
102601	17.50	52	20.70	3½	3½	3¾									
102602	6.85	20	7.99	3½	¾	3¾	2.60								



Cast-Iron Bevel Gears in Pairs

1½-Inch Pitch

Cast-iron bevel gears 1½-inch pitch, 4-inch face, under ordinary conditions, will transmit 5.14 horse power at 100 feet per minute on the pitch line, 7.73 horse power at 200 feet, 9.51 horse power at 300 feet, 13.67 horse power at 500 feet, 19.08 horse power at 750 feet, 23.05 horse power at 1,000 feet, 26.80 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio
121081	\$30.00	54	25.80	4	2 11/16	4 15/16		122291	\$37.00	64	30.57	4	4 1/16	5 1/16	
121082	22.40	50	23.89	4	2 3/8	4 7/8	1.08	122292	13.85	28	13.40	4	1 7/16	4 7/16	2.29
121151	22.50	46	21.98	4	2 3/4	4 7/8		122431	38.75	68	32.48	4	4 3/8	5 1/8	
121152	18.55	40	19.12	4	2 3/16	4 3/4	1.15	122432	13.70	28	13.40	4	1 1/4	4 1/2	2.43
121231	30.00	54	25.80	4	3	4 1/4		122501	26.00	50	23.89	4	3 15/16	4 3/8	
121232	25.10	44	21.03	4	2 3/16	4 3/8	1.23	122502	10.55	20	9.59	4	1	4 3/8	2.50
121251	15.65	30	14.35	4	2 9/16	4 7/8		122941	29.65	50	23.89	4	3 7/8	4 3/4	
121252	12.15	24	11.49	4	1 7/8	3 3/4	1.25	122942	9.15	17	8.13	4	1 15/16	4 1/4	2.94
121281	22.50	46	21.98	4	2 13/16	4 3/4		123001	27.75	54	25.80	4	4 3/16	4 3/4	
121282	16.95	36	17.21	4	1 15/16	4 3/4	1.28	123002	9.70	18	8.64	4	1 11/16	4 1/16	3.00
121283	22.00	41	19.60	4	2 5/8	5		123003	30.35	60	28.66	4	4 1/2	5	
121284	16.00	32	15.30	4	2	4 1/4	1.28	123004	10.55	20	9.59	4	1 11/16	4 1/8	3.00
121321	32.45	58	27.71	4	3 3/16	5		123005	37.80	78	37.26	4	4 3/4	5 1/4	
121322	25.10	44	21.03	4	2 3/4	4 3/4	1.32	123006	13.00	26	12.44	4	1 3/4	4 5/8	3.00
121331	31.20	56	26.75	4	3 3/16	4 15/16		123009-A	25.50	51	24.27	3 1/2	3 3/4	4 1/4	
121332	19.30	42	20.07	4	2 1/16	4 3/8	1.33	123010-A	8.80	17	8.16	3 1/2	3 3/4	3 3/4	3.00
121391	24.20	50	23.89	4	3 1/4	4 7/8		123081-A	21.00	40	19.12	3	3 1/2	3 3/4	
121392	16.95	36	17.21	4	1 7/8	4 3/4	1.39	123082-A	7.35	13	6.27	3	1 11/16	3 3/8	3.08
121431	20.00	40	19.12	4	2 3/4	4 9/16		123751	34.65	60	28.66	4	4 1/2	6 7/8	
121432	13.70	28	13.40	4	1 3/4	4 1/2	1.43	123752	8.70	16	7.69	4	1 1/2	4	3.75
121471	26.70	56	26.75	4	3 1/4	4 7/8		123781	36.10	68	32.48	4	4 13/16	5 1/8	
121472	17.80	38	18.16	4	1 3/4	4 3/4	1.47	123782	9.70	18	8.64	4	1 5/8	4 3/8	3.78
121501	23.30	36	17.21	4	2 3/4	4 1/2		123861	29.70	54	25.80	4	4 1/2	4 3/8	
121502	15.00	24	11.49	4	1 7/16	4 1/16	1.50	123862	7.90	14	6.74	4	1 5/8	4 5/8	3.86
121521	39.30	76	36.30	4	3 3/4	5 1/2		124003	36.10	68	32.48	4	4 7/8	5	
121522	27.40	50	23.89	4	1 15/16	4 7/8	1.52	124004	9.20	17	8.16	4	1 3/8	4 1/8	4.00
121551	34.00	62	29.61	4	3 1/2	5		124005	34.25	64	30.57	4	4 11/16	4 7/8	
121552	23.55	40	19.12	4	1 3/4	4 3/4	1.55	124006	8.70	16	7.69	4	2 1/16	4 3/16	4.00
121641	18.30	36	17.21	4	3	4 5/8		124171	57.85	100	47.75	4	5 5/8	5 5/8	
121642	11.30	22	10.54	4	1 3/8	4 3/8	1.64	124172	15.00	24	11.49	4	1 7/8	4 1/2	4.17
121651	31.70	56	26.75	4	3 1/2	4 7/8		124291	34.65	60	28.66	4	4 3/4	4 7/8	
121652	16.15	34	16.26	4	1 1/2	4 11/16	1.65	124292	7.90	14	6.74	4	1 1/2	4 1/8	4.29
121661	23.40	48	22.93	4	3 3/8	4 7/8		124451	56.85	98	46.80	4	6	5 7/8	
121662	14.15	29	13.87	4	1 7/16	4 3/8	1.66	124452	11.30	22	10.54	4	1 5/8	4 3/4	4.45
121691	21.70	44	21.03	4	3	4 1/2		125141	45.35	72	34.39	4	4 13/16	4 3/4	
121692	13.00	26	12.44	4	1 1/2	4 1/2	1.69	125142	7.90	14	6.74	4	1 1/2	4 1/4	5.14
121731	30.00	52	24.84	4	3 1/2	4 7/8		125331	41.60	64	30.57	4	4 3/4	4 3/8	
121732	19.55	30	14.35	4	1 3/8	4 3/8	1.73	125332	7.00	12	5.80	4	1 7/16	4 1/4	5.33
121941	29.00	62	29.61	4	3 7/8	5 1/16		125431	47.10	76	36.30	4	4 5/8	4 7/8	
121942	15.40	32	15.30	4	1 1/4	4 9/16	1.94	125432	7.90	14	6.74	4	1 3/8	4 1/16	5.43
121951	20.45	41	19.60	4	3 3/8	4 5/8		126001	55.85	96	45.84	4	6	5 11/16	
121952	10.90	21	10.06	4	1 7/8	4 1/4	1.95	126002	8.70	16	7.69	4	1 1/2	4 1/4	6.00
122001	18.30	36	17.21	4	3 5/16	4 5/8		126003	59.10	102	48.71	4	6 1/2	5 3/4	
122002	9.70	18	8.64	4	1 15/16	4 1/16	2.00	126004	9.20	17	8.16	4	1 1/2	4 1/4	6.00
122003	30.00	52	24.84	4	3 5/8	4 3/4		126005	53.45	90	42.98	4	5 3/4	5 1/2	
122004	13.00	26	12.44	4	1 1/4	4 5/8	2.00	126006	8.30	15	7.21	4	1 7/16	4 1/4	6.00
122005	24.20	50	23.89	4	3 5/8	4 13/16		127711	68.00	108	51.57	4	6 5/8	6 1/8	
122006	12.60	25	11.97	4	1 3/4	4 3/8	2.00	127712	7.90	14	6.74	4	1 7/16	4 3/4	7.71
122191	19.25	35	16.73	4	3 5/16	4 9/16		1210001	92.00	140	66.84	4	8 1/4	7 1/2	
122192	8.70	16	7.69	4	3 3/4	4 1/8	2.19	1210002	7.90	14	6.74	4	1 3/16	4 1/4	10.00

Cast-Iron Bevel Gears in Pairs

1 $\frac{3}{4}$ -Inch Pitch

Cast-iron bevel gears 1 $\frac{3}{4}$ -inch pitch, 5-inch face, under ordinary conditions, will transmit 7.50 horse power at 100 feet per minute on the pitch line, 11.26 horse power at 200 feet, 13.85 horse power at 300 feet, 19.93 horse power at 500 feet, 27.82 horse power at 750 feet, 33.62 horse power at 1,000 feet, 39.08 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio	Pattern Number	Price Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length through Hub, Inches	Speed Ratio
141101	\$33.80	44	24.53	5	3 $\frac{1}{16}$	5 $\frac{7}{16}$	1.10	142381	\$56.65	76	42.35	5	5 $\frac{3}{16}$	6 $\frac{3}{16}$	2.38
141102	28.85	40	22.30	5	2 $\frac{5}{16}$	5 $\frac{13}{16}$		142382	23.85	32	17.85	5	1 $\frac{5}{16}$	5 $\frac{11}{16}$	
141143	36.25	48	26.76	5	3 $\frac{1}{16}$	6		142451	77.55	108	60.17	5	6 $\frac{3}{16}$	7	
141144	30.00	42	23.42	5	2 $\frac{5}{16}$	5 $\frac{7}{16}$	1.14	142452	31.15	44	24.53	5	1 $\frac{9}{16}$	5 $\frac{7}{16}$	2.45
141211	42.35	58	32.32	5	3 $\frac{5}{16}$	6 $\frac{1}{16}$		142471	55.35	74	41.23	5	5 $\frac{1}{16}$	6 $\frac{1}{16}$	
141212	33.50	48	26.76	5	2 $\frac{3}{4}$	6 $\frac{1}{16}$	1.21	142472	22.55	30	16.74	6	1 $\frac{1}{4}$	5 $\frac{5}{16}$	2.47
141261	33.80	44	24.53	5	3 $\frac{1}{4}$	6		142473	49.25	64	35.66	5	5 $\frac{1}{16}$	6	
141262	25.75	35	19.52	5	2 $\frac{1}{4}$	5 $\frac{3}{4}$	1.26	142474	20.00	26	14.52	5	1 $\frac{1}{2}$	5 $\frac{5}{16}$	2.47
141311	32.45	42	23.42	5	3 $\frac{3}{16}$	5 $\frac{3}{16}$		142671	39.00	48	26.76	5	4 $\frac{5}{16}$	5 $\frac{5}{16}$	
141312	23.85	32	17.85	5	2 $\frac{1}{8}$	5 $\frac{5}{16}$	1.31	142672	15.00	18	10.08	5	3 $\frac{3}{4}$	5 $\frac{1}{4}$	2.67
141331	25.75	32	17.85	5	3	5 $\frac{1}{16}$		142831	51.70	68	37.89	5	5 $\frac{1}{4}$	6	
141332	18.75	24	13.41	5	1 $\frac{3}{4}$	5 $\frac{1}{4}$	1.33	142832	18.75	24	13.41	5	1 $\frac{1}{16}$	5 $\frac{5}{16}$	2.83
141333	31.20	40	22.30	5	3 $\frac{1}{16}$	5 $\frac{3}{16}$		142891	41.60	52	28.98	5	4 $\frac{7}{16}$	5 $\frac{3}{16}$	
141334	22.55	30	16.74	5	2 $\frac{1}{8}$	5 $\frac{1}{2}$	1.33	142892	15.00	18	10.08	5	1 $\frac{1}{2}$	5 $\frac{1}{4}$	2.89
141361	43.40	60	33.44	5	3 $\frac{15}{16}$	6 $\frac{1}{16}$		143001	37.00	45	25.08	5	4 $\frac{13}{16}$	5 $\frac{11}{16}$	
141362	31.15	44	24.53	5	2 $\frac{3}{16}$	5 $\frac{7}{16}$	1.36	143002	13.00	15	8.42	5	1 $\frac{1}{16}$	5 $\frac{1}{16}$	3.00
141431	33.15	43	23.97	5	3 $\frac{1}{4}$	5 $\frac{1}{4}$		143005	40.00	54	30.10	5	4 $\frac{7}{16}$	5 $\frac{3}{16}$	
141432	22.55	30	16.74	5	1 $\frac{3}{4}$	5 $\frac{1}{2}$	1.43	143006	15.00	18	10.08	5	1 $\frac{1}{2}$	6 $\frac{1}{4}$	3.00
141501	46.90	66	36.78	5	4	5 $\frac{15}{16}$		143101	51.50	62	34.55	5	5 $\frac{3}{16}$	6	
141502	31.15	44	24.53	5	2	5 $\frac{11}{16}$	1.50	143102	16.15	20	11.19	5	1 $\frac{1}{2}$	5 $\frac{1}{4}$	3.10
141591	40.00	54	30.10	5	4	5 $\frac{15}{16}$		143331	43.25	50	27.87	5	4 $\frac{1}{16}$	5	
141592	25.15	34	18.97	5	1 $\frac{7}{8}$	5 $\frac{3}{4}$	1.59	143332	13.00	15	8.42	5	3 $\frac{1}{16}$	5 $\frac{5}{16}$	3.33
141651	46.90	66	36.78	5	4 $\frac{3}{4}$	6 $\frac{1}{4}$		143541	60.00	78	43.45	5	6 $\frac{1}{16}$	6 $\frac{7}{16}$	
141652	28.85	40	22.30	5	2	5 $\frac{3}{4}$	1.65	143542	17.40	22	12.30	5	3 $\frac{1}{16}$	5 $\frac{5}{16}$	3.54
141741	26.45	33	18.41	5	3 $\frac{1}{4}$	5 $\frac{1}{4}$		143571	43.25	50	27.87	5	5	5 $\frac{1}{16}$	
141742	15.50	19	10.63	5	1	4 $\frac{1}{8}$	1.74	143572	12.35	14	7.86	5	1 $\frac{1}{16}$	5 $\frac{1}{16}$	3.57
141753	32.50	42	23.42	5	3 $\frac{1}{16}$	5 $\frac{11}{16}$		143781	55.40	68	37.89	5	5 $\frac{13}{16}$	6 $\frac{1}{16}$	
141754	18.75	24	13.41	5	1 $\frac{1}{2}$	5 $\frac{3}{8}$	1.75	143782	15.00	18	10.08	5	3 $\frac{5}{8}$	5 $\frac{1}{16}$	3.78
141781	25.75	32	17.85	5	3 $\frac{1}{2}$	5 $\frac{1}{2}$		144001	63.45	80	44.57	5	6 $\frac{1}{16}$	6 $\frac{3}{16}$	
141782	15.00	18	10.08	5	1	4 $\frac{15}{16}$	1.78	144002	16.15	20	11.19	5	1 $\frac{1}{16}$	5 $\frac{1}{16}$	4.00
141801	40.00	54	30.10	5	4 $\frac{5}{16}$	5 $\frac{15}{16}$		144381	92.45	114	63.51	5	7 $\frac{1}{16}$	7 $\frac{1}{16}$	
141802	22.55	30	16.74	5	1 $\frac{9}{16}$	5 $\frac{5}{8}$	1.80	144382	20.00	26	14.52	5	1 $\frac{1}{2}$	5 $\frac{3}{8}$	4.38
141911	32.50	42	23.42	5	3 $\frac{15}{16}$	5 $\frac{5}{8}$		144441	67.70	80	44.57	5	6 $\frac{3}{16}$	6 $\frac{5}{16}$	
141912	17.40	22	12.30	5	1 $\frac{1}{16}$	5 $\frac{1}{4}$	1.91	144442	15.00	18	10.08	5	3 $\frac{5}{8}$	5 $\frac{1}{4}$	4.44
141941	45.80	64	35.06	5	4 $\frac{15}{16}$	6 $\frac{1}{16}$		144671	70.80	84	46.80	5	5 $\frac{5}{16}$	5 $\frac{9}{16}$	
141942	24.45	33	18.41	5	1 $\frac{9}{16}$	5 $\frac{11}{16}$	1.94	144672	15.00	18	10.08	5	3 $\frac{5}{8}$	5 $\frac{1}{4}$	4.67
141971	45.20	63	35.11	5	3 $\frac{1}{16}$	4 $\frac{1}{16}$		145001	67.70	80	44.57	5	6 $\frac{3}{16}$	6 $\frac{9}{16}$	
141972	23.85	32	17.85	5	1 $\frac{1}{2}$	5 $\frac{5}{8}$	1.97	145002	13.60	16	8.97	5	3 $\frac{9}{16}$	5 $\frac{1}{16}$	5.00
142001	45.80	64	35.66	5	4 $\frac{13}{16}$	5 $\frac{3}{4}$		145331	79.70	96	53.48	5	6 $\frac{7}{16}$	6 $\frac{11}{16}$	
142002	23.85	32	17.85	5	1 $\frac{9}{16}$	5 $\frac{3}{4}$	2.00	145332	15.00	18	10.08	5	3 $\frac{1}{2}$	5 $\frac{1}{16}$	5.33
142041	40.90	51	28.42	5	4 $\frac{1}{2}$	5 $\frac{3}{8}$		145501	74.00	88	49.03	5	6	5 $\frac{7}{16}$	
142042	19.40	25	13.96	5	2 $\frac{1}{8}$	6 $\frac{1}{8}$	2.04	145502	13.60	16	8.97	5	3 $\frac{5}{8}$	5 $\frac{1}{4}$	5.50
142051	30.50	39	21.75	5	3 $\frac{3}{4}$	5 $\frac{3}{8}$		145691	63.30	74	41.23	5	6 $\frac{3}{16}$	6 $\frac{3}{16}$	
142052	15.50	19	10.63	5	1 $\frac{3}{4}$	5 $\frac{5}{8}$	2.05	145692	11.65	13	7.31	5	7 $\frac{1}{16}$	5 $\frac{1}{4}$	5.69
142111	56.65	76	42.35	5	5 $\frac{1}{16}$	6 $\frac{3}{16}$		145751	76.70	92	51.26	5	6 $\frac{13}{16}$	6 $\frac{3}{16}$	
142112	26.35	36	20.08	5	1 $\frac{1}{2}$	5 $\frac{3}{4}$	2.11	145752	13.60	16	8.97	5	3 $\frac{1}{2}$	5 $\frac{1}{16}$	5.75
142251	43.00	54	30.10	5	4 $\frac{1}{2}$	5 $\frac{3}{4}$		146471	95.35	110	61.28	5	7 $\frac{7}{16}$	6 $\frac{1}{16}$	
142252	18.75	24	13.41	5	1 $\frac{1}{16}$	5 $\frac{7}{16}$	2.25	146472	14.30	17	9.52	5	3 $\frac{1}{2}$	5 $\frac{1}{16}$	6.47
142253	37.00	45	25.08	5	3 $\frac{1}{4}$	7 $\frac{3}{4}$		147381	79.70	96	53.48	5	6 $\frac{7}{16}$	6 $\frac{1}{16}$	
142254	16.00	20	11.19	5	1	5 $\frac{1}{2}$	2.25	147382	11.65	13	7.31	5	3 $\frac{5}{8}$	5 $\frac{1}{8}$	7.38
142361	41.60	52	28.98	5	4 $\frac{1}{2}$	5 $\frac{11}{16}$		1410001	114.50	130	72.42	5	8	7 $\frac{1}{4}$	
142362	17.40	22	12.30	5	1 $\frac{1}{8}$	5 $\frac{1}{4}$	2.36	1410002	11.65	13	7.31	5	3 $\frac{3}{8}$	5 $\frac{1}{2}$	10.00

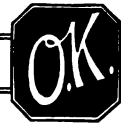


Cast-Iron Bevel Gears in Pairs

2-Inch Pitch

Cast-iron bevel gears 2-inch pitch, 5½-inch face, under ordinary conditions, will transmit 9.43 horse power at 100 feet per minute on the pitch line, 14.16 horse power at 200 feet, 17.41 horse power at 300 feet, 25.06 horse power at 500 feet, 34.98 horse power at 750 feet, 42.26 horse power at 1,000 feet, 49.13 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
161083	\$27.60	26	16.59	5½	2¾	5¼		162331	\$46.90	42	26.76	5½	4½	6½	
161084	25.90	24	15.32	5½	2¾	6¼	1.08	162332	20.60	18	11.52	5½	1½	5½	2.33
161115	42.00	40	25.49	5½	3¾	6½		162461	65.50	64	40.76	5½	5½	6½	
161116	35.60	36	22.95	5½	2½	6½	1.11	162462	27.60	26	16.59	5½	1½	6	2.46
161141	50.00	50	31.85	5½	3½	6½		162501	45.10	40	25.49	5½	4½	6½	
161142	41.80	44	28.04	5½	3½	6½	1.14	162502	18.80	16	10.25	5½	1½	5½	2.50
161301	51.60	52	33.12	5½	4¼	6½		162671	65.50	64	40.76	5½	6½	7½	
161302	38.75	40	25.49	5½	2¾	6½	1.30	162672	25.90	24	15.32	5½	1½	6½	2.67
161323	39.40	37	23.58	5½	3¾	6½		162711	75.30	76	48.40	5½	6½	7½	
161324	29.20	28	17.86	5½	2½	6	1.32	162712	29.20	28	17.86	5½	1½	6½	2.71
161351	50.00	50	31.85	5½	4½	6½		162801	46.90	42	26.74	5½	3½	6	
161352	36.45	37	23.58	5½	2½	6½	1.35	162802	17.90	15	9.55	5½	1½	6	2.80
161381	56.30	58	36.94	5½	4¾	7		162871	50.40	46	29.31	5½	5½	6½	
161382	40.30	42	26.76	5½	2½	6½	1.38	162872	18.80	16	10.25	5½	1½	5¾	2.87
161401	43.60	42	26.76	5½	3¾	6½		163001	52.15	48	30.58	5½	5½	6½	
161402	30.90	30	19.13	5½	2¼	5½	1.40	163002	18.80	16	10.25	5½	1½	5½	3.00
161501	38.60	36	22.95	5½	3¾	6½		163003	67.10	66	42.03	5½	6½	7	
161502	25.90	24	15.32	5½	2	6½	1.50	163004	24.15	22	14.05	5½	1½	5½	3.00
161503	48.45	48	30.58	5½	4¾	6½		163005	76.75	78	49.67	5½	6½	7½	
161504	32.50	32	20.40	5½	2¼	6½	1.50	163006	27.60	26	16.59	5½	1½	6	3.00
161531	46.80	46	29.31	5½	4¾	6½		163007	59.80	57	36.30	5½	6	6½	
161532	30.90	30	19.13	5½	1¾	5½	1.53	163008	21.45	19	12.15	5½	1½	5¾	3.00
161533	49.25	49	31.19	5½	5	6½		163431	53.95	55	35.03	5½	6	6½	
161534	32.50	32	20.37	5½	1¾	6	1.53	163432	18.80	16	10.25	5½	1½	6½	3.43
161551	36.90	34	21.68	5½	3¾	6½		163631	72.30	69	43.94	5½	7½	8½	
161552	24.15	22	14.05	5½	1¾	5½	1.55	163632	21.45	19	12.15	5½	1	6½	3.63
161611	56.30	58	36.94	5½	4¾	6½		163751	66.65	60	38.21	5½	6½	6½	
161612	35.60	36	22.95	5½	2¼	6½	1.61	163752	18.80	16	10.25	5½	1½	5½	3.75
161613	50.00	50	31.85	5½	4½	6½		163921	99.50	98	62.40	5½	7½	7½	
161614	32.00	31	19.77	5½	2½	6½	1.61	163922	26.75	25	15.96	5½	1½	6½	3.92
161671	50.00	50	31.85	5½	4½	6½		164001	70.30	64	40.76	5½	6½	6½	
161672	30.90	30	19.13	5½	2	6½	1.67	164002	18.80	16	10.25	5½	1½	6	4.00
161691	39.85	44	28.04	5½	4¾	6½		164003	55.85	48	30.58	5½	4¾	5¾	
161692	27.60	26	16.59	5½	1¾	6½	1.69	164004	15.15	12	7.73	5½	1½	5¾	4.00
161771	46.80	46	29.31	5½	4¾	6½		164361	104.35	96	61.13	5½	8	7½	
161772	27.60	26	16.59	5½	1¾	6½	1.77	164362	24.15	22	14.05	5½	1	6	4.36
161901	70.00	76	48.40	5½	5½	7½		164751	120.15	114	72.58	5½	7¾	7½	
161902	38.75	40	25.49	5½	2½	6½	1.90	164752	25.90	24	15.32	5½	1	6½	4.75
161921	50.00	50	31.85	5½	5¾	6½		165001	116.60	110	70.04	5½	8½	8½	
161922	27.60	26	16.59	5½	1¼	5½	1.92	165002	24.15	22	14.05	5½	¾	6	5.00
162001	48.45	48	30.58	5½	4½	6½		165371	95.30	86	54.76	5½	7¾	7½	
162002	25.90	24	15.32	5½	1¾	5½	2.00	165372	18.80	16	10.25	5½	1½	5½	5.37
162003	57.90	60	38.21	5½	5½	6½		165911	134.00	130	82.77	5½	7¾	7½	
162004	30.90	30	19.13	5½	1¾	6½	2.00	165912	24.15	22	14.05	5½	¾	6½	5.91
162311	62.30	60	38.21	5½	5½	6½		168121	150.90	130	82.77	5½	10½	9½	
162312	27.60	26	16.59	5½	1¼	6½	2.31	168122	18.80	16	10.25	5½	¾	5½	8.12



Cast-Iron Bevel Gears in Pairs

2¼-Inch Pitch

Cast-iron bevel gears 2¼-inch pitch, 6½-inch face, under ordinary conditions, will transmit 12.53 horse power at 100 feet per minute on the pitch line, 18.83 horse power at 200 feet, 23.15 horse power at 300 feet, 33.31 horse power at 500 feet, 46.50 horse power at 750 feet, 56.20 horse power at 1,000 feet, 65.30 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	Speed Ratio
181051	\$58.70	42	30.11	6½	3¾	7½	1.05	181801	\$72.00	54	38.70	6½	5¾	7½	1.80
181052	52.00	40	28.68	6½	2¾	6½		181802	41.30	30	21.52	6½	2½	7¾	
181071	47.15	32	22.95	6½	3½	7½	1.07	181921	67.55	50	35.83	6½	5½	7¾	1.92
181072	41.30	30	21.52	6½	3	7¼		181922	36.60	26	18.66	6½	1¾	7¾	
181141	65.50	48	34.40	6½	4¾	7¾	1.14	181941	84.75	66	47.29	6½	6	7½	1.94
181142	54.20	42	30.11	6½	3¾	7½		181942	44.20	34	24.39	6½	2½	7½	
181171	74.10	56	40.13	6½	4¾	8	1.17	182061	84.75	66	47.29	6½	6½	8½	2.06
181172	59.40	47	33.68	6½	3½	7½		182062	43.55	32	22.95	6½	2	7½	
181201	51.70	36	25.82	6½	3½	7½	1.20	182231	82.15	58	41.56	6½	6	7½	2.23
181202	41.35	30	21.52	6½	2¾	7¾		182232	36.60	26	18.67	6½	1½	7	
181261	87.00	68	48.72	6½	5¾	8½	1.26	182271	72.75	50	35.83	6½	6½	7½	2.27
181262	66.40	54	38.70	6½	3¾	8½		182272	31.75	22	15.81	6½	1½	7	
181333	61.00	44	31.54	6½	4¾	7½	1.33	182501	72.75	50	35.83	6½	6¾	7½	2.50
181334	44.55	33	23.67	6½	2½	7½		182502	29.40	20	14.38	6½	1½	6¾	
181363	67.55	50	35.83	6½	4¾	7½	1.36	182503	96.25	70	50.15	6½	7	8½	2.50
181364	47.75	36	25.82	6½	2½	7½		182504	38.90	28	20.09	6½	1½	7½	
181401	58.70	42	30.11	6½	4½	7½	1.40	182641	82.15	58	41.56	6½	6¾	7½	2.64
181402	41.30	30	21.52	6½	2¾	7½		182642	31.75	22	15.81	6½	1½	7	
181451	82.15	64	45.83	6½	5¾	8½	1.45	183081	116.00	80	57.31	6½	7½	8½	3.08
181452	56.30	44	31.51	6½	2½	7½		183082	36.60	26	18.67	6½	1½	7	
181541	56.30	40	28.68	6½	4¾	7½	1.54	183101	92.90	62	44.42	6½	7½	7½	3.10
181542	36.60	26	18.66	6½	2¼	7		183102	29.40	20	14.38	6½	1	6¾	
181561	67.55	50	35.83	6½	5¾	7½	1.56	184121	104.65	66	47.29	6½	7¾	8	4.12
181562	43.55	32	22.95	6½	2¾	7½		184122	24.70	16	11.53	6½	¾	6¾	
181651	74.10	56	40.13	6½	5¾	7½	1.65	184201	130.00	84	60.16	6½	8¾	8½	4.20
181652	45.60	34	24.39	6½	2¾	7½		184202	29.40	20	14.38	6½	¾	6½	
181711	65.50	48	34.40	6½	5¾	7¾	1.71	185001	152.60	100	71.63	6½	9½	9	5.00
181712	38.90	28	20.09	6½	2½	7¾		185002	29.40	20	14.38	6½	1	7½	

2½-Inch Pitch

Cast-iron bevel gears 2½-inch pitch, 7-inch face, under ordinary conditions, will transmit 15.00 horse power at 100 feet per minute on the pitch line, 22.52 horse power at 200 feet, 27.70 horse power at 300 feet, 39.87 horse power at 500 feet, 55.65 horse power at 750 feet, 67.24 horse power at 1,000 feet, 78.16 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

201121	\$92.85	56	44.58	7	4½	8½	1.12	201671	\$70.00	40	31.86	7	3½	6¾	1.67
201122	77.50	50	39.82	7	4½	8½		201672	42.40	24	19.15	7	1½	7½	
201181	70.00	40	31.86	7	4¼	8	1.18	201691	76.15	44	35.04	7	5¾	8¼	1.69
201182	56.40	34	27.03	7	3¾	8		201692	45.20	26	20.74	7	2¼	7¾	
201201	59.50	36	28.68	7	4¼	8	1.20	201761	98.85	60	47.77	7	6½	8½	1.76
201202	50.90	30	23.92	7	3¾	8		201762	56.40	34	27.09	7	2½	8½	
201261	81.60	48	38.22	7	4½	8½	1.26	201801	89.85	54	43.00	7	6	8½	1.80
201262	62.00	38	30.27	7	3¼	8½		201802	50.90	30	23.92	7	2¼	7½	
201281	104.00	64	50.95	7	5¼	8½	1.28	201803	106.90	72	57.31	7	6½	9½	1.80
201282	77.50	50	39.82	7	3½	8½		201804	64.60	40	31.86	7	2½	8½	
201401	73.05	42	33.45	7	4	7¾	1.40	202001	98.85	60	47.77	7	6¾	8½	2.00
201402	50.90	30	23.92	7	2½	7¾		202002	50.90	30	23.92	7	2½	7½	
201501	73.05	42	33.45	7	5½	8½	1.50	202005	70.00	40	31.86	7	5½	8½	2.00
201502	48.15	28	22.33	7	2½	7¾		202006	36.35	20	15.98	7	1¾	7¾	



Cast-Iron Bevel Gears in Pairs

2½-Inch Pitch

For horse power transmitted by bevel gears 2½ inch pitch, see page 154.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	Speed Ratio
202007	\$81.50	50	39.82	7	5¼	7¾		203003	\$124.80	72	57.31	7	6¼	6¼	
202008	43.80	25	19.95	7	4¼	8¾	2.00	203004	42.40	24	19.15	7	1¼	7¼	3.00
202141	106.25	60	47.77	7	6¼	8		203401	127.35	68	54.13	7	10¼	9¼	
202142	48.15	28	22.33	7	2	8	2.14	203402	36.35	20	15.98	7	1	7¼	3.40
202311	127.80	74	58.90	7	7¾	8¾		203731	149.85	82	65.27	7	8¾	9¼	
202312	53.60	32	25.51	7	1½	8	2.31	203732	39.25	22	17.57	7	1¾	7½	3.73
202401	87.85	48	38.22	7	9¾	7½		204001	104.00	64	50.93	7	7¼	8¼	
202402	36.35	20	15.98	7	1¼	7½	2.40	204002	30.60	16	12.73	7	1¼	8¼	4.00
202503	106.25	60	47.77	7	7¼	8¼		204201	153.10	84	66.86	7	10½	8½	
202504	42.40	24	19.15	7	1¾	7½	2.50	204202	36.35	20	15.98	7	¾	7¼	4.20
202505	77.35	45	35.84	7	6	7½		206001	164.00	90	71.63	7	10¾	10¼	
202505	33.45	18	14.40	7	1½	7½	2.50	206002	29.10	15	12.03	7	¾	7¼	6.00
202841	96.85	54	43.00	7	10¾	8¾									
202842	34.90	19	15.19	7	1½	7½	2.84								

2¾-Inch Pitch

Cast-iron bevel gears 2¾-inch pitch, 7½-face, under ordinary conditions, will transmit 17.67 horse power at 100 feet per minute on the pitch line, 26.55 horse power at 200 feet, 32.65 horse power at 300 feet, 47 horse power at 500 feet, 65.58 horse power at 750 feet, 79.25 horse power at 1,000 feet, 92.10 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

221191	\$107.85	50	43.80	7½	5¼	8¾		223061-A	\$120.00	55	48.17	7	7¾	8¾	
221192	86.30	42	36.80	7½	3¾	8¾	1.19	223062-A	42.00	18	15.83	7	1¼	7¾	3.06
221251	130.65	60	52.55	7½	5¾	9¼		223941-A	162.00	67	58.67	7	9½	10	
221252	96.35	48	42.05	7½	3¾	8½	1.25	223942-A	40.00	17	14.97	7	1	7¾	3.94
221471	123.00	56	49.04	7½	6¾	9½		224001	158.50	64	56.04	7½	8¾	9	
221472	79.60	38	33.30	7½	3¼	8¾	1.47	224002	39.15	16	14.10	7½	1½	7¾	4.00
221691	115.00	54	47.30	7½	6½	9		224061	161.00	65	56.92	7½	10½	8½	
221692	70.00	32	28.06	7½	2½	8½	1.69	224062	39.15	16	14.10	7½	1¼	8½	4.06
222501-A	122.00	50	43.80	8	7¼	8½		226111	240.00	110	96.30	7½	12½	11¼	
222502-A	49.35	20	17.58	8	1¾	8½	2.50	226112	43.00	18	15.83	7½	¾	7¾	6.11

3-Inch Pitch

Cast-iron bevel gears 3-inch pitch, 8½-inch face, under ordinary conditions, will transmit 21.85 horse power at 100 feet per minute on the pitch line, 32.8 horse power at 200 feet, 40.4 horse power at 300 feet, 58.1 horse power at 500 feet, 81.1 horse power at 750 feet, 98.0 horse power at 1,000 feet, 113.9 horse power at 1,250 feet. Small pinions running with large gears should be cast steel for full load.

241101	\$129.00	44	42.05	8¼	5¾	10¼		241473-A	\$66.00	28	26.80	6	3½	6	
241102	109.25	40	38.24	8¼	4¾	10¼	1.10	241474-A	52.00	19	18.23	6	1¾	6	1.47
241151	92.00	30	28.70	8¼	9¾	9¾		241911-A	108.00	44	42.02	6	7¼	8¼	
241152	75.90	26	24.89	8¼	3½	9¾	1.15	241912-A	55.00	23	21.96	6	2¾	7¼	1.91
241261	153.00	48	45.87	8¼	6	10¼		242611-A	117.00	47	44.88	6	7½	8¾	
241262	104.40	38	36.33	8¼	6½	12½	1.26	242612-A	50.00	18	17.19	6	1¾	7¼	2.61
241321	160.90	50	47.78	8¼	9½	9½		242631	160.90	50	47.78	8½	8¾	9¾	
241322	104.40	38	36.33	8½	4	10	1.32	242632	59.00	19	18.23	8½	1½	8½	2.63
241331-A	180.00	56	53.50	10	6¼	11		243311-A	196.00	63	60.18	10	9¾	11¼	
241332-A	132.00	42	40.14	10	4¾	11¾	1.33	243312-A	64.00	19	18.23	10	1½	10¾	3.31
241351-A	90.00	35	33.42	6	5½	8½		244101-A	300.00	82	78.30	9	8¼	10½	
241352-A	62.00	26	24.83	6	3¼	8	1.35	244102-A	70.00	20	19.18	9	1¾	10¼	4.10
241471	129.00	44	42.05	8½	5¾	9¾		244741	300.00	90	85.96	8½	11¾	11¾	
241472	85.25	30	28.70	8½	3¼	9½	1.47	244742	59.00	19	18.23	8½	1¼	9½	4.74

Cast-Iron Miter Gears

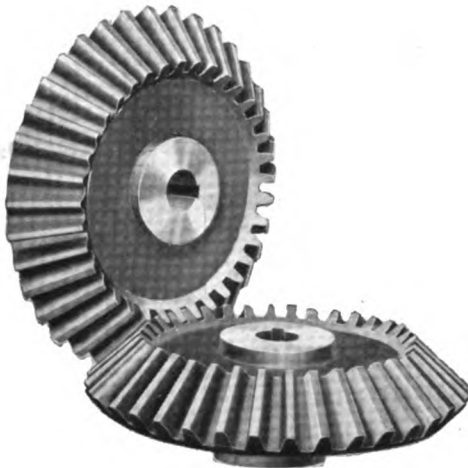


Fig. T-470

Gears of this type are manufactured by the machine molding process. The teeth are molded from a single tooth pattern, and the spacing is accomplished by accurate machinery. This process makes the gears more accurate, better balanced and as nearly perfect as is possible to make a cast tooth wheel.

Setscrews alone should not be depended upon to hold miter gears in position.

Miter gears run only in pairs, that is, the pinion of one pair, as given in the following list, will not run with the gear of another pair at right angles.

Prices quoted are for gears bored to exact size, with taper keyseats.

1-Inch Pitch

Cast-iron miter gears 1-inch pitch, $2\frac{1}{2}$ -inch face, under ordinary conditions, will transmit 2.14 horse power at 100 feet per minute on the pitch line, 3.22 horse power at 200 feet, 3.96 horse power at 300 feet, 5.70 horse power at 500 feet, 7.95 horse power at 750 feet, 9.60 horse power at 1,000 feet, 11.16 horse power at 1,250 feet.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears
3119	\$3.80	19	6.05	$2\frac{1}{4}$	$\frac{5}{8}$	$2\frac{1}{4}$	M.	8030	\$5.40	30	9.57	$2\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{7}{8}$	H.T.
8020-A	3.90	20	6.39	2	$1\frac{1}{8}$	$2\frac{1}{8}$	M.	8030	5.40	20	9.57	$2\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{7}{8}$	M.
8020-A	3.90	20	6.39	2	$1\frac{1}{8}$	$2\frac{1}{8}$	H.T.	8030	5.40	30	9.57	$2\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{7}{8}$	H.T.
8021-A	4.05	21	6.71	2	$1\frac{1}{8}$	$2\frac{1}{4}$	H.T.	8031	5.50	31	9.88	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{8}$	H.T.
8021-A	4.05	21	6.71	2	$1\frac{1}{8}$	$2\frac{1}{4}$	M.	8031	5.50	31	9.88	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{8}$	M.
8021-A	4.05	21	6.71	2	$1\frac{1}{8}$	$2\frac{1}{4}$	H.T.	8031	5.50	31	9.88	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{8}$	H.T.
8022-A	4.15	22	7.03	2	$1\frac{1}{8}$	$2\frac{1}{4}$	H.T.	8032	5.65	32	10.20	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{4}$	H.T.
8022-A	4.15	22	7.03	2	$1\frac{1}{8}$	$2\frac{1}{4}$	M.	8032	5.65	32	10.20	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{4}$	M.
8021	4.10	21	6.71	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{4}$	M.	8033	5.80	33	10.52	$2\frac{1}{2}$	$1\frac{1}{8}$	$3\frac{7}{8}$	M.
8021	4.10	21	6.71	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{4}$	H.T.	3137	6.35	37	11.78	$2\frac{1}{2}$	1	$2\frac{15}{16}$	M.
8022	4.20	22	7.03	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{4}$	H.T.	8038	6.50	38	12.11	$2\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{15}{16}$	M.
8022	4.20	22	7.03	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{4}$	M.	8043	7.20	43	13.70	$2\frac{1}{2}$	$1\frac{11}{16}$	$3\frac{3}{8}$	M.
3125	4.60	25	7.96	$2\frac{1}{2}$	1	$2\frac{5}{8}$	M.	8043	7.20	43	13.70	$2\frac{1}{2}$	$1\frac{11}{16}$	$3\frac{3}{8}$	H.T.
8025	4.65	25	7.98	$2\frac{1}{2}$	$1\frac{3}{8}$	$2\frac{3}{4}$	M.	8044	7.35	44	14.02	$2\frac{1}{2}$	$1\frac{11}{16}$	$3\frac{11}{16}$	H.T.
8029	5.20	29	9.25	$2\frac{1}{2}$	$1\frac{3}{8}$	$2\frac{3}{4}$	M.	8044	7.35	44	14.02	$2\frac{1}{2}$	$1\frac{11}{16}$	$3\frac{11}{16}$	M.
8029	5.20	29	9.25	$2\frac{1}{2}$	$1\frac{3}{8}$	$2\frac{3}{4}$	H.T.	3144	7.35	44	14.02	$2\frac{1}{2}$	$1\frac{11}{16}$	$3\frac{11}{16}$	M.

$1\frac{1}{8}$ -Inch Pitch

Cast-iron miter gears, $1\frac{1}{8}$ -inch pitch, 3-inch face, under ordinary conditions, will transmit 2.89 horse power at 100 feet per minute on the pitch line, 4.34 horse power at 200 feet, 5.34 horse power at 300 feet, 7.69 horse power at 500 feet, 10.73 horse power at 750 feet, 12.97 horse power at 1,000 feet, 15.07 horse power at 1,250 feet.

9023	\$6.05	23	8.26	3	$1\frac{1}{2}$	$3\frac{1}{2}$	M.	9035	\$8.50	35	12.55	3	$1\frac{5}{8}$	$3\frac{1}{2}$	H.T.
9029	7.25	29	10.40	3	$1\frac{5}{8}$	$3\frac{1}{4}$	M.	9035	8.50	35	12.55	3	$1\frac{5}{8}$	$3\frac{1}{2}$	M.
$31\frac{1}{4}$ 30	7.40	30	10.76	$2\frac{1}{2}$	1	$2\frac{3}{4}$	M.	9039	9.30	39	13.98	3	$1\frac{7}{8}$	$3\frac{3}{4}$	M.
9034	8.30	34	12.19	3	$1\frac{5}{8}$	$3\frac{1}{4}$	M.	9050	11.55	50	17.92	3	$2\frac{1}{16}$	$3\frac{15}{16}$	M.
9034	8.30	34	12.19	3	$1\frac{5}{8}$	$3\frac{1}{4}$	H.T.	$31\frac{1}{4}$ 55	12.50	55	19.71	3	$1\frac{1}{2}$	$3\frac{7}{8}$	M.

*M. = Miter; H.T. = Hunting Tooth.



Cast-Iron Miter Gears

1¼-Inch Pitch

Cast-iron miter gears 1¼-inch pitch, 3½-inch face, under ordinary conditions, will transmit 3.75 horse power at 100 feet per minute on the pitch line, 5.63 horse power at 200 feet, 6.93 horse power at 300 feet, 9.96 horse power at 500 feet, 13.91 horse power at 750 feet, 16.81 horse power at 1,000 feet, 19.54 horse power at 1,250 feet.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears
10019-A	\$6.45	19	7.59	2¼	1½	2½	M.	10036	\$11.05	36	14.34	3½	1½	4½	M.
31¼20	6.80	20	7.99	3	1½	3½	M.	31¼40	12.00	40	15.93	3	1½	3½	M.
10020-A	6.80	20	7.99	3	1½	3½	M.	10040	12.05	40	15.93	3½	2½	4	M.
10020-A	6.80	20	7.99	3	1½	3½	H.T.	10045	13.35	45	17.92	3½	2½	4½	M.
10021-A	7.05	21	8.39	3	1½	3½	H.T.	10045	13.35	45	17.92	3½	2½	4½	H.T.
10021-A	7.05	21	8.39	3	1½	3½	M.	10046	13.65	46	18.32	3½	2½	4½	H.T.
10024	7.90	24	9.58	3½	1½	3½	M.	10046	13.65	46	18.32	3½	2½	4½	M.
10024-A	7.85	24	9.58	3	1½	3½	M.	31¼48	14.05	48	19.11	3½	1½	4	M.
31¼25	8.20	25	9.97	3½	1	3½	M.	10050	14.60	50	19.91	3½	2½	4½	M.
10025-A	8.15	25	9.97	2½	1½	3½	M.	10050	14.60	50	19.91	3½	2½	4½	H.T.
10027	8.70	27	10.77	3½	1½	3½	M.	10051	14.85	51	20.30	3½	2½	4½	H.T.
10027	8.70	27	10.77	3½	1½	3½	H.T.	10051	14.85	51	20.30	3½	2½	4½	M.
10028	8.95	28	11.16	3½	1½	3½	H.T.	31¼56	16.00	56	22.30	3½	2	4½	M.
10028	8.95	28	11.16	3½	1½	3½	M.	10060	17.10	60	23.88	3½	2	4½	M.
31¼36	10.95	36	14.34	3	2	4½	M.	31¼66	18.50	66	26.27	3½	2	4½	M.

1½-Inch Pitch

Cast-iron miter gears 1½-inch pitch, 4-inch face, under ordinary conditions, will transmit 5.14 horse power at 100 feet per minute on the pitch line, 7.72 horse power at 200 feet, 9.50 horse power at 300 feet, 13.67 horse power at 500 feet, 19.08 horse power at 750 feet, 23.05 horse power at 1,000 feet, 26.80 horse power at 1,250 feet.

12016-A	\$8.40	16	7.69	2½	1½	3½	M.	12033	\$15.75	33	15.78	4	2½	4½	M.
12019-A	9.75	19	9.11	3½	1½	3½	M.	12037	17.35	37	17.69	4	2½	5	M.
12021-A	10.80	21	10.06	3½	1½	3½	M.	12037	17.35	37	17.69	4	2½	5	H.T.
12021-A	10.80	21	10.06	3½	1½	3½	H.T.	12038	17.80	38	18.16	4	2½	4½	H.T.
12022-A	11.25	22	10.54	3½	1½	3½	H.T.	12038	17.80	38	18.16	4	2½	4½	M.
12022-A	11.25	22	10.54	3½	1½	3½	M.	12041	18.95	41	19.60	4	2½	4½	M.
12024	12.15	24	11.49	4	1½	4½	M.	12041	18.95	41	19.60	4	2½	4½	H.T.
12025	12.55	25	11.97	4	2½	4½	M.	12042	19.30	42	20.07	4	2½	4½	H.T.
12028-A	13.30	28	13.40	4	2½	4½	M.	12042	19.30	42	20.07	4	2½	4½	M.
12028	13.75	28	13.40	4	2½	4½	M.	31¼42	19.30	42	20.07	4	2½	5½	M.
12028	13.75	28	13.40	4	2½	4½	H.T.	12049	22.05	49	23.41	4	2½	5½	M.
12029	14.15	29	13.87	4	2½	4½	H.T.	12049	22.05	49	23.41	4	2½	5½	H.T.
12029	14.15	29	13.87	4	2½	4½	M.	12050	22.40	50	23.89	4	2½	5	H.T.
12032	15.35	32	15.30	4	2½	4½	M.	12050	22.40	50	23.89	4	2½	5	M.
12032	15.35	32	15.30	4	2½	4½	H.T.	31¼55	24.30	55	26.27	4	2	5	M.
12033	15.75	33	15.78	4	2½	4½	H.T.	12063	27.20	63	30.09	4	2½	5½	M.

1¾-Inch Pitch

Cast-iron miter gears 1¾-inch pitch, 5-inch face, under ordinary conditions, will transmit 7.50 horse power at 100 feet per minute on the pitch line, 11.26 horse power at 200 feet, 13.85 horse power at 300 feet, 19.93 horse power at 500 feet, 27.82 horse power at 750 feet, 33.62 horse power at 1,000 feet, 39.08 horse power at 1,250 feet.

14020-B	\$15.00	20	11.19	3	1½	3	M.	14032	\$23.85	32	17.85	5	2½	5½	M.
14020-A	16.00	20	11.19	4½	1½	4½	M.	14032	23.85	32	17.85	5	2½	5½	H.T.
14020-A	16.00	20	11.19	4½	1½	4½	H.T.	14033	24.50	33	18.41	5	2½	5½	H.T.
14021-A	16.65	21	11.74	4½	1½	4½	H.T.	14033	24.50	33	18.41	5	2½	5½	M.
14021-A	16.65	21	11.74	4½	1½	4½	M.	14036	26.35	36	20.08	5	2½	5½	M.
14022-A	17.10	22	12.30	3½	1½	3½	M.	14036	26.35	36	20.08	5	2½	5½	H.T.
14024	18.75	24	13.41	5	2½	5½	M.	14037	26.95	37	20.64	5	2½	5½	H.T.
14024	18.75	24	13.41	5	2½	5½	H.T.	14037	26.95	37	20.64	5	2½	5½	M.
14025	19.30	25	13.96	5	2½	5½	H.T.	14045	31.70	45	25.09	5	3½	6	M.
14025	19.30	25	13.96	5	2½	5½	M.	14045	31.70	45	25.09	5	3½	6	H.T.
14027	20.60	27	15.07	5	2½	5	M.	14046	32.35	46	25.64	5	2½	5½	H.T.
14027	20.60	27	15.07	5	2½	5	H.T.	14046	32.35	46	25.64	5	2½	5½	M.
14028	21.25	28	15.63	5	2½	5½	H.T.	14050-A	34.00	50	27.87	4½	3½	5½	M.
14028	21.25	28	15.63	5	2½	5½	M.	14058	39.10	58	32.32	5	3½	6½	M.
14032-A	23.60	32	17.85	4½	2½	5½	M.								

*M. = Miter; H.T. = Hunting Tooth.



Cast-Iron Miter Gears

2-Inch Pitch

Cast-iron miter gears 2-inch pitch, 5½-inch face, under ordinary conditions, will transmit 9.43 horse power at 100 feet per minute on the pitch line, 14.16 horse power at 200 feet, 17.41 horse power at 300 feet, 25.06 horse power at 500 feet, 34.98 horse power at 750 feet, 42.26 horse power at 1,000 feet, 49.13 horse power at 1,250 feet.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	* Type of Gears	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back- ing, Inches	Standard Length Through Hub, Inches	* Type of Gears
16020-A	\$22.40	20	12.78	5	2	5	M.	16039	\$38.00	39	24.85	5½	21½	6¼	M.
16024	25.95	24	15.32	5½	1¼	5¼	M.	16038-A	40.80	38	21.22	7	3½	7½	M.
16024	25.95	24	15.32	5½	1¼	5¼	H.T.	16038-A	40.80	38	21.22	7	3½	7½	H.T.
16025	26.70	25	15.96	5½	3	6¼	H.T.	16039-A	41.90	39	24.85	7	2½	7½	H.T.
16025	26.70	25	15.96	5½	3	6¼	M.	16039-A	41.90	39	24.85	7	2½	7½	M.
16025	26.70	25	15.96	5½	3	6¼	H.T.	16041	39.60	41	26.13	5½	2½	6	M.
16026	27.60	26	16.59	5½	2¼	6	H.T.	16047	44.00	47	29.94	5½	3	6¼	M.
16026	27.60	26	16.59	5½	2¼	6	M.	16047	44.00	47	29.94	5½	3	6¼	H.T.
16028	29.30	28	17.80	5½	2¼	6	M.	16048	44.75	48	30.58	5½	3½	6¼	H.T.
16034	34.10	34	21.68	5½	3½	6¼	M.	16048	44.75	48	30.58	5½	3½	6¼	M.
16034	34.10	34	21.68	5½	3½	6¼	H.T.	16050	46.20	50	31.85	5½	3½	7½	M.
16035	35.00	35	22.31	5½	3½	6¼	H.T.	3250	47.95	50	31.85	6	2½	6¼	M.
16035	35.00	35	22.31	5½	3½	6¼	M.	16055	49.90	55	35.03	5½	3½	6¼	M.
3238	37.80	38	24.22	5½	7	7	M.	16055	49.90	55	35.03	5½	3½	6¼	H.T.
16038	37.20	38	24.22	5½	3½	6½	M.	16056	50.50	56	35.67	5½	3½	7	H.T.
16038	37.20	38	24.22	5½	3½	6½	H.T.	16056	50.50	56	35.67	5½	3½	7	M.
16039	38.00	39	24.85	5½	21½	6¼	H.T.	16066	57.50	66	42.03	5½	4½	7½	M.

2¼-Inch Pitch

Cast-iron miter gears 2¼-inch pitch, 6½-inch face, under ordinary conditions, will transmit 12.53 horse power at 100 feet per minute on the pitch line, 18.83 horse power at 200 feet, 23.15 horse power at 300 feet, 33.31 horse power at 500 feet, 46.50 horse power at 750 feet, 56.20 horse power at 1,000 feet, 65.30 horse power at 1,250 feet.

18017-A	\$24.70	17	12.24	5	1¾	4½	M.	18034	\$45.65	34	24.39	6¼	3½	7½	M.
18018-A	25.85	18	12.96	5	1½	4½	M.	18036	47.85	36	25.82	6½	3½	7½	M.
18020-A	28.15	20	14.38	4	2¼	4½	M.	18042	54.20	42	30.11	6½	3½	7½	M.
32½-22	31.75	22	15.81	6	3	6½	M.	18042	54.20	42	30.11	6½	3½	7½	H.T.
18022-A	30.45	22	15.81	5	1½	4½	M.	18043	55.25	43	30.82	6½	3½	7½	H.T.
18022-B	29.45	22	15.81	4½	2	4½	M.	18043	55.25	43	30.82	6½	3½	7½	M.
18025	35.35	25	17.95	6½	3	7½	M.	18049	61.45	49	35.12	6½	4	7½	M.
18028	38.95	28	20.10	6½	3½	7½	M.	18049	61.45	49	35.12	6½	4	7½	H.T.
18030	41.25	30	21.52	6½	2½	6	M.	18050	62.45	50	35.83	6½	4	7½	H.T.
18032	43.55	32	22.95	6½	2¾	6½	M.	18050	62.45	50	35.83	6½	4	7½	M.
18032	43.55	32	22.95	6½	2¾	6½	H.T.	18054	66.40	54	38.70	6½	4½	7½	M.
18033	44.50	33	23.67	6½	3½	7½	H.T.	18060-A	86.40	60	42.99	10	4½	10½	M.
18033	44.50	33	23.67	6½	3½	7½	M.								
18033	44.50	33	23.67	6½	3½	7½	H.T.								
18034	45.65	34	24.39	6½	3½	7½	H.T.								

2½-Inch Pitch

Cast-iron miter gears 2½-inch pitch, 7-inch face, under ordinary conditions, will transmit 15.00 horse power at 100 feet per minute on the pitch line, 22.52 horse power at 200 feet, 27.70 horse power at 300 feet, 39.87 horse power at 500 feet, 55.65 horse power at 750 feet, 67.25 horse power at 1,000 feet, 78.16 horse power at 1,250 feet.

20017-A	\$25.15	17	13.60	3½	3	4¾	M.	20035	\$57.80	35	27.89	7	2½	6¾	M.
20026	45.05	26	20.74	7	2½	8¼	M.	20010	64.60	40	31.86	7	3½	7½	M.
20030	50.75	30	23.92	7	3½	7¾	M.	20043-A	72.00	43	34.25	8	4½	9¼	M.
20030-A	49.50	30	23.92	6	3½	6½	M.	20048	75.35	48	38.22	7	4½	8½	M.
20034	56.20	34	27.09	7	3½	8	M.	32½-54	84.00	54	43.00	7	4	8¾	M.
20034	56.20	34	27.09	7	3½	8	H.T.								
20035	57.80	35	27.89	7	2½	6¾	H.T.								

3-Inch Pitch

Cast-iron miter gears 3-inch pitch, 8½-inch face, under ordinary conditions, will transmit 21.85 horse power at 100 feet per minute on the pitch line, 32.8 horse power at 200 feet, 40.4 horse power at 300 feet, 58.1 horse power at 500 feet, 81.1 horse power at 750 feet, 98.0 horse power at 1,000 feet, 113.9 horse power at 1,250 feet.

24019-A	\$45.00	19	18.23	6	2½	6	M.	24038	\$104.40	38	36.33	8½	4¾	10	H.T.
24026	75.90	26	24.89	8½	4½	9½	M.	24039	106.85	39	37.28	8½	4¾	10	H.T.
24032	89.85	32	30.61	8½	4½	9½	M.	24039	106.85	39	37.28	8½	4¾	10	M.
24038	104.40	38	36.33	8½	4¾	10	M.	24012	114.00	42	40.14	8½	4¾	10	M.

*M. - Miter; H. T. - Hunting Tooth.

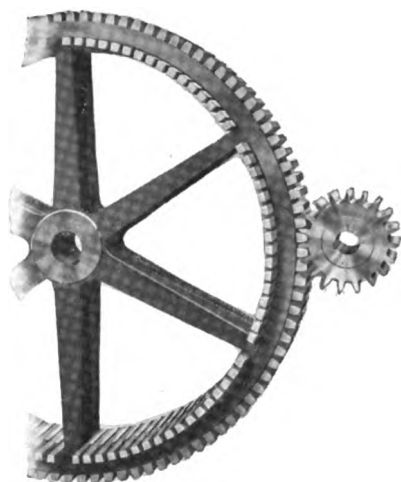


Fig. T-471

Spur Mortise Wheels

These wheels have the teeth accurately shaped in gear cutting machines after the gear is filled. They will run with pinions of like pitch as listed on pages 160, 161, 162.

The prices quoted in the following tables are for gears bored to exact size, keyseated or setscrewed.

1½-Inch Pitch

Spur mortise wheels 1½-inch pitch, 5-inch face, under ordinary conditions, will transmit 9.59 horse power at 250 feet per minute on the pitch line, 17.08 horse power at 500 feet, 23.85 horse power at 750 feet, 28.81 horse power at 1,000 feet, 33.50 horse power at 1,250 feet, 37.98 horse power at 1,500 feet, 45.80 horse power at 2,000 feet, 52.95 horse power at 2,500 feet.

Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
12028	\$ 75.00	28	13.40	5	6½ ¹⁶	12078	\$132.00	78	37.26	5	6½ ¹⁶
12048	100.00	48	22.93	5	6½ ¹⁶	12084-A	154.00	84	40.12	6	7½ ¹⁶
12050-A	100.00	50	23.89	3½	4½ ¹⁶	12088	148.00	88	42.02	5	6½ ¹⁶
12054	109.00	54	25.80	5	6½ ¹⁶	12088-A	140.00	88	42.02	4	5½ ¹⁶
12066	117.00	66	31.52	5	6½ ¹⁶	12096	161.00	96	45.84	5	6½ ¹⁶
12072	123.00	72	34.39	5	6½ ¹⁶	12096-A	146.00	96	45.84	4	5½ ¹⁶
12075-A	153.00	75	35.82	7	9	12104	174.00	104	49.66	5	6½ ¹⁶

1¾-Inch Pitch

Spur mortise wheels 1¾-inch pitch, 6-inch face, under ordinary conditions, will transmit 13.44 horse power at 250 feet per minute on the pitch line, 23.92 horse power at 500 feet, 33.39 horse power at 750 feet, 40.34 horse power at 1,000 feet, 46.89 horse power at 1,250 feet, 53.17 horse power at 1,500 feet, 64.12 horse power at 2,000 feet, 74.13 horse power at 2,500 feet.

14024	\$ 75.00	24	13.41	6	7½ ¹⁶	14068	\$136.00	68	37.89	6	7½ ¹⁶
14032	83.00	32	17.85	6	7½ ¹⁶	14078	155.00	78	43.46	6	7½ ¹⁶
14044	102.00	44	24.53	6	7½ ¹⁶	14084	166.00	84	46.80	6	7½ ¹⁶
14046	106.00	46	25.04	6	7½ ¹⁶	14090	178.00	90	50.14	6	7½ ¹⁶
14048	110.00	48	26.76	6	7½ ¹⁶	14100-A	180.00	100	55.71	5	6½ ¹⁶
14048-A	102.00	48	26.76	4½	6½ ¹⁶	14102	200.00	102	56.83	6	7½ ¹⁶
14060	122.00	60	33.44	6	7½ ¹⁶	14128-A	240.00	128	71.31	5	7½ ¹⁶
14066	133.00	66	36.78	6	7½ ¹⁶	14136	268.00	136	75.76	6	7½ ¹⁶

2-Inch Pitch

Spur mortise wheels 2-inch pitch, 7-inch face, under ordinary conditions, will transmit 17.91 horse power at 250 feet per minute on the pitch line, 31.89 horse power at 500 feet, 44.52 horse power at 750 feet, 53.79 horse power at 1,000 feet, 62.52 horse power at 1,250 feet, 70.90 horse power at 1,500 feet, 85.50 horse power at 2,000 feet, 98.84 horse power at 2,500 feet.

16036	\$ 98.00	36	22.95	7	9	16088	\$204.00	88	56.03	7	9
16038	103.00	38	24.22	7	9	16090	208.00	90	57.31	7	9
16042	110.00	42	26.76	7	9	16091	211.00	91	57.94	7	9
16048	120.00	48	30.58	7	9	16096-A	223.00	96	61.13	6	8
16048-A	110.00	48	30.58	5	7	16114-A	265.00	114	72.58	6	8
16054	129.00	54	34.39	7	9	16114-B	370.00	114	72.58	9	11
16060	142.00	60	38.21	7	9	16116	275.00	116	73.86	7	9
16062	116.00	62	39.49	7	9	16136-A	400.00	136	86.59	8	10
16066	155.00	66	42.03	7	9	16136-B	290.00	136	86.59	5	7
16075-A	162.00	75	47.76	6	8	16136-C	325.00	136	86.59	6	8
16078	181.00	78	49.67	7	9						



Spur Mortise Wheels

2 $\frac{1}{4}$ -Inch Pitch

Spur mortise wheels 2 $\frac{1}{4}$ -inch pitch, 8-inch face, under ordinary conditions, will transmit 23.02 horse power at 250 feet per minute on the pitch line, 41 horse power at 500 feet, 57.24 horse power at 750 feet, 69.16 horse power at 1,000 feet, 80.39 horse power at 1,250 feet, 91.15 horse power at 1,500 feet, 109.93 horse power at 2,000 feet 127.08 horse power at 2,500 feet.

Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
18034	\$112.00	34	24.39	8	10 $\frac{1}{4}$	18066	\$196.00	66	47.20	8	10 $\frac{1}{4}$
18040	123.00	40	28.68	8	10 $\frac{1}{4}$	18072	214.00	72	51.58	8	10 $\frac{1}{4}$
18042	129.00	42	30.11	8	10 $\frac{1}{4}$	18096	232.00	96	68.77	8	10 $\frac{1}{4}$
18048	145.00	48	34.40	8	10 $\frac{1}{4}$	18100	306.00	100	71.63	8	10 $\frac{1}{4}$
18054	161.00	54	38.70	8	10 $\frac{1}{4}$	18102	312.00	102	73.06	8	10 $\frac{1}{4}$
18060	177.00	60	42.99	8	10 $\frac{1}{4}$						

2 $\frac{1}{2}$ -Inch Pitch

Spur mortise wheels 2 $\frac{1}{2}$ -inch pitch, 9-inch face, under ordinary conditions, will transmit 28.78 horse power at 250 feet per minute on the pitch line, 51.26 horse power at 500 feet, 71.55 horse power at 750 feet, 86.45 horse power at 1,000 feet, 100.49 horse power at 1,250 feet, 113.94 horse power at 1,500 feet, 137.41 horse power at 2,000 feet, 158.85 horse power at 2,500 feet.

20036	\$139.00	36	28.68	9	11 $\frac{1}{4}$	20066	\$248.00	66	52.54	9	11 $\frac{1}{4}$
20036-A	125.00	36	28.68	7 $\frac{1}{2}$	9 $\frac{7}{8}$	20072	272.00	72	57.31	9	11 $\frac{1}{4}$
20018	180.00	48	38.22	9	11 $\frac{1}{4}$	20085-A	251.00	85	67.66	6 $\frac{1}{2}$	8 $\frac{3}{4}$
20060-A	256.00	60	47.77	10	12 $\frac{1}{8}$	20096	375.00	96	76.41	9	11 $\frac{3}{8}$

2 $\frac{3}{4}$ -Inch Pitch

Spur mortise wheels 2 $\frac{3}{4}$ -inch pitch, 10-inch face, under ordinary conditions will transmit 35.17 horse power at 250 feet per minute on the pitch line, 62.65 horse power at 500 feet, 87.45 horse power at 750 feet, 105.66 horse power at 1,000 feet, 122.82 horse power at 1,250 feet, 139.26 horse power at 1,500 feet, 167.94 horse power at 2,000 feet, 194.15 horse power at 2,500 feet.

22060	\$277.00	60	52.55	10	12 $\frac{1}{2}$	22084	\$400.00	84	73.54	10	12 $\frac{1}{2}$
22072	340.00	72	63.05	10	12 $\frac{1}{2}$	22102	500.00	102	89.30	10	12 $\frac{1}{2}$
22078	370.00	78	68.29	10	12 $\frac{1}{2}$						

3-Inch Pitch

Spur mortise wheels 3-inch pitch, 11-inch face, under ordinary conditions, will transmit 42.21 horse power at 250 feet per minute on the pitch line, 75.17 horse power at 500 feet, 104.9 horse power at 750 feet, 126.8 horse power at 1,000 feet, 147.4 horse power at 1,250 feet, 167.1 horse power at 1,500 feet, 201.5 horse power at 2,000 feet, 233 horse power at 2,500 feet.

24025-A	\$120.00	25	23.94	9	11 $\frac{13}{16}$	24055	\$300.00	55	52.55	11	11 $\frac{1}{4}$
24039-A	180.00	39	37.28	9	11 $\frac{13}{16}$	24066	356.00	66	63.05	11	13 $\frac{1}{4}$
24019	261.00	49	46.82	11	13 $\frac{3}{4}$	24075-A	435.00	75	71.64	12	14 $\frac{1}{4}$
24054	294.00	54	51.59	11	13 $\frac{3}{4}$	24090	520.00	90	85.96	11	13 $\frac{3}{4}$

Spur Mortise Pinions

1 $\frac{1}{2}$ -Inch Pitch

Cast-iron spur mortise pinions 1 $\frac{1}{2}$ -inch pitch, 5-inch working face, under ordinary conditions, will transmit 9.59 horse power at 250 feet per minute on the pitch line, 170.8 horse power at 500 feet, 23.85 horse power at 750 feet, 28.81 horse power at 1,000 feet, 33.50 horse power at 1,250 feet, 37.98 horse power at 1,500 feet, 45.80 horse power at 2,000 feet, 52.95 horse power at 2,500 feet.

Pattern Number	Price, Finished	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price, Finished	Number of Teeth	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
12015	\$27.00	15	7.21	5 $\frac{1}{4}$	5 $\frac{3}{4}$	12034	\$52.50	31	16.26	5 $\frac{1}{4}$	5 $\frac{3}{4}$
12017	29.00	17	8.16	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12035	53.75	35	16.73	5 $\frac{1}{2}$	5 $\frac{3}{4}$
12019	31.00	19	9.11	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12036	55.00	36	17.21	5 $\frac{1}{2}$	5 $\frac{3}{4}$
12025	40.25	25	11.97	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12038	57.50	38	18.16	5 $\frac{1}{2}$	5 $\frac{3}{4}$
12027	43.25	27	12.92	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12042	63.00	42	20.07	5 $\frac{1}{2}$	5 $\frac{3}{4}$
12028	44.50	28	13.40	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12048	71.50	48	22.03	5 $\frac{1}{2}$	5 $\frac{3}{4}$
12032	49.50	32	15.30	5 $\frac{1}{2}$	5 $\frac{3}{4}$	12058	90.00	68	32.48	5 $\frac{1}{2}$	5 $\frac{3}{4}$



Spur Mortise Pinions

1 $\frac{3}{4}$ -Inch Pitch

Cast-iron spur mortise pinions 1 $\frac{3}{4}$ -inch pitch, 6-inch working face, under ordinary conditions, will transmit 13.43 horse power at 250 feet per minute on the pitch line, 23.92 horse power at 500 feet, 33.39 horse power at 750 feet, 40.34 horse power at 1,000 feet, 46.89 horse power at 1,250 feet, 53.17 horse power at 1,500 feet, 64.12 horse power at 2,000 feet, 74.13 horse power at 2,500 feet.

Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
14015	\$31.25	15	8.42	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14034	\$ 64.50	34	18.97	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14018	36.50	18	10.08	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14040	74.50	40	22.30	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14020	39.75	20	11.19	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14018-A	88.50	48	26.76	4 $\frac{1}{2}$	4 $\frac{1}{2}$
14022	43.50	22	12.30	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14054	100.00	54	30.10	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14023	45.00	23	12.85	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14064	116.00	64	35.66	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14024	46.75	24	13.41	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14066	120.00	66	36.78	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14025	48.75	25	13.96	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14068	123.00	68	37.89	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14027	52.25	27	15.07	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14072	130.00	72	40.12	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14028	54.00	28	15.63	6 $\frac{1}{2}$	6 $\frac{1}{2}$	14078	140.00	78	43.16	6 $\frac{1}{2}$	6 $\frac{1}{2}$
14029	56.00	29	16.19	6 $\frac{1}{2}$	6 $\frac{1}{2}$						

2-Inch Pitch

Cast-iron spur mortise pinions 2-inch pitch, 7-inch working face, under ordinary conditions, will transmit 17.92 horse power at 250 feet per minute on the pitch line, 31.89 horse power at 500 feet, 44.52 horse power at 750 feet, 53.79 horse power at 1,000 feet, 62.52 horse power at 1,250 feet, 70.90 horse power at 1,500 feet, 85.50 horse power at 2,000 feet, 98.84 horse power at 2,500 feet.

16015	\$40.00	15	9.62	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16032	\$ 75.00	32	20.40	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16018	42.25	16	10.25	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16036	83.00	36	22.95	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16017	44.50	17	10.88	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16042	96.00	42	26.76	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16018	46.50	18	11.62	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16044	100.00	44	28.04	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16019	48.50	19	12.15	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16054	121.00	54	34.30	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16020	50.75	20	12.78	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16056	125.00	56	35.67	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16021	52.75	21	13.42	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16066	147.00	66	42.03	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16024	58.50	24	15.32	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16068	151.00	68	43.29	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16029	68.50	29	18.50	7 $\frac{1}{2}$	7 $\frac{1}{2}$	16082	183.00	82	52.22	7 $\frac{1}{2}$	7 $\frac{1}{2}$
16030	71.00	30	19.13	7 $\frac{1}{2}$	7 $\frac{1}{2}$						

2 $\frac{1}{4}$ -Inch Pitch

Cast-iron spur mortise pinions 2 $\frac{1}{4}$ -inch pitch, 8-inch working face, under ordinary conditions will transmit 23.02 horse power at 250 feet per minute on the pitch line, 41.00 horse power at 500 feet, 57.24 horse power at 750 feet, 69.16 horse power at 1,000 feet, 80.39 horse power at 1,250 feet, 91.15 horse power at 1,500 feet, 109.93 horse power at 2,000 feet, 127.08 horse power at 2,500 feet.

18018	\$ 57.00	18	12.96	8 $\frac{1}{2}$	8 $\frac{1}{2}$	18040	\$108.00	40	28.68	8 $\frac{1}{2}$	8 $\frac{1}{2}$
18024	71.00	24	17.24	8 $\frac{1}{2}$	8 $\frac{1}{2}$	18044	118.00	44	31.54	8 $\frac{1}{2}$	8 $\frac{1}{2}$
18028	80.00	28	20.10	8 $\frac{1}{2}$	8 $\frac{1}{2}$	18046	122.00	46	32.97	8 $\frac{1}{2}$	8 $\frac{1}{2}$
18032	89.00	32	22.95	8 $\frac{1}{2}$	8 $\frac{1}{2}$	18048	127.00	48	34.40	8 $\frac{1}{2}$	8 $\frac{1}{2}$
18034	94.00	34	24.39	8 $\frac{1}{2}$	8 $\frac{1}{2}$	18053	140.00	53	37.98	8 $\frac{1}{2}$	8 $\frac{1}{2}$
18037	100.00	37	26.53	8 $\frac{1}{2}$	8 $\frac{1}{2}$						

2 $\frac{1}{2}$ -Inch Pitch

Cast-iron spur mortise pinions 2 $\frac{1}{2}$ -inch pitch, 9-inch working face, under ordinary conditions, will transmit 28.78 horse power at 250 feet per minute on the pitch line, 51.26 horse power at 500 feet, 71.55 horse power at 750 feet, 86.45 horse power at 1,000 feet, 100.49 horse power at 1,250 feet, 113.94 horse power at 1,500 feet, 137.41 horse power at 2,000 feet, 158.85 horse power at 2,500 feet.

20017-A	\$ 57.00	17	13.60	9 $\frac{1}{2}$	9 $\frac{1}{2}$	20036	\$121.00	36	28.68	9 $\frac{1}{2}$	9 $\frac{1}{2}$
20018	70.00	18	14.40	9 $\frac{1}{2}$	10 $\frac{1}{2}$	20036-A	100.00	36	26.68	7 $\frac{1}{2}$	7 $\frac{1}{2}$
20030	104.00	30	23.02	9 $\frac{1}{2}$	9 $\frac{1}{2}$	20038	128.00	38	30.27	9 $\frac{1}{2}$	9 $\frac{1}{2}$
20032	109.00	32	25.51	9 $\frac{1}{2}$	9 $\frac{1}{2}$	20066	220.00	66	52.54	9 $\frac{1}{2}$	9 $\frac{1}{2}$

2 $\frac{3}{4}$ -Inch Pitch

Cast-iron spur mortise pinions 2 $\frac{3}{4}$ -inch pitch, 10-inches working face, under ordinary conditions, will transmit 35.17 horse power at 250 feet per minute on the pitch line, 62.65 horse power at 500 feet, 87.75 horse power at 750 feet, 105.66 horse power at 1,000 feet, 122.82 horse power at 1,250 feet, 139.26 horse power at 1,500 feet, 167.94 horse power at 2,000 feet, 194.15 horse power at 2,500 feet.

22019	\$ 84.00	19	16.71	10 $\frac{1}{2}$	10 $\frac{3}{8}$	22032	\$130.00	32	28.06	10 $\frac{1}{2}$	10 $\frac{1}{2}$
22026	109.00	26	22.81	10 $\frac{1}{2}$	10 $\frac{1}{2}$	22036	146.00	36	31.56	10 $\frac{1}{2}$	10 $\frac{1}{2}$
22028	115.00	28	24.57	10 $\frac{1}{2}$	10 $\frac{1}{2}$						

Spur Mortise Pinions

3-Inch Pitch

Cast-iron spur mortise pinions 3-inch pitch, 11-inch working face, under ordinary conditions, will transmit 42.21 horse power at 250 feet per minute on the pitch line, 75.17 horse power at 500 feet, 104.9 horse power at 750 feet, 126.8 horse power at 1,000 feet, 147.4 horse power at 1,250 feet, 167.1 horse power at 1,500 feet, 201.5 horse power at 2,000 feet, 233.0 horse power at 2,500 feet.

Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches	Pattern Number	Price, Finished	Number of Cogs	Pitch Diameter, Inches	Face, Inches	Standard Length Through Hub, Inches
24013-A	\$ 64.00	13	12.53	9 $\frac{1}{2}$	10 $\frac{1}{2}$	24039-A	\$165.00	39	37.28	9	9
24019	96.00	19	18.23	11 $\frac{1}{2}$	12 $\frac{1}{2}$	24051	255.00	51	48.73	11 $\frac{1}{2}$	11 $\frac{1}{2}$
24023	113.00	23	22.03	11 $\frac{1}{2}$	11 $\frac{1}{2}$	24055	277.00	55	52.55	11 $\frac{1}{2}$	11 $\frac{1}{2}$
24025-A	102.00	25	23.04	9	9	24056	282.00	56	53.50	11 $\frac{1}{2}$	11 $\frac{1}{2}$
24027	131.00	27	25.84	11 $\frac{1}{2}$	11 $\frac{1}{2}$	24058-A	230.00	58	55.41	5 $\frac{1}{2}$	6
24034	165.00	34	32.51	11 $\frac{1}{2}$	11 $\frac{1}{2}$						

Miter Mortise Gears in Pairs

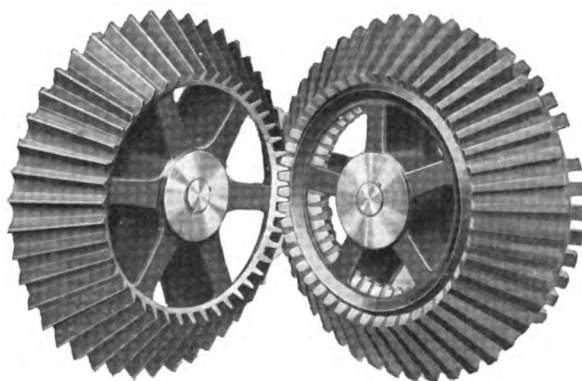


Fig. T-472

Miter mortise wheels have the teeth accurately finished in gear cutting machines after the wheels are filled. The teeth of the miter mortise pinions are also accurately finished in gear cutters.

Before shipment, each pair is set up on a special testing stand for determining their accuracy.

1 $\frac{1}{2}$ -Inch Pitch

Miter mortise wheels 1 $\frac{1}{2}$ -inch pitch, 5-inch face, under ordinary conditions, will transmit 7.89 horse power at 250 feet per minute on the pitch line, 12.53 horse power at 500 feet, 16.63 horse power at 750 feet, 20.19 horse power at 1,000 feet, 23.52 horse power at 1,250 feet, 26.59 horse power at 1,500 feet, 32.26 horse power at 2,000 feet, 37.06 horse power at 2,500 feet.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears
12041	\$55.00	41	19.60	5	2 $\frac{1}{2}$	5 $\frac{3}{4}$	P.	12054	\$103.00	54	25.80	5	3 $\frac{1}{4}$	6 $\frac{1}{4}$	M.
12042	90.00	42	20.07	5	3 $\frac{1}{8}$	6 $\frac{1}{4}$	M.	12065	84.00	65	31.05	5	3 $\frac{1}{8}$	6 $\frac{1}{4}$	P.
12054	71.00	54	25.80	5	2 $\frac{1}{2}$	6	P.	12066	118.00	66	31.52	5	3 $\frac{1}{4}$	6 $\frac{3}{8}$	M.

1 $\frac{3}{4}$ -Inch Pitch

Miter mortise wheels 1 $\frac{3}{4}$ -inch pitch, 6-inch face, under ordinary conditions, will transmit 11.05 horse power at 250 feet per minute on the pitch line, 17.55 horse power at 500 feet, 23.28 horse power at 750 feet, 28.27 horse power at 1,000 feet, 32.93 horse power at 1,250 feet, 37.22 horse power at 1,500 feet, 45.16 horse power at 2,000 feet, 51.88 horse power at 2,500 feet.

14030-A	\$45.00	30	16.74	3	2	3 $\frac{3}{4}$	P.	14045	\$ 77.00	45	25.09	6	3	6 $\frac{1}{4}$	P.
14030-A	72.00	30	16.74	3	3 $\frac{3}{8}$	4 $\frac{11}{16}$	M.	14046	104.00	46	25.64	6	3 $\frac{3}{4}$	7 $\frac{3}{8}$	M.
14032-A	48.00	32	17.85	3	2 $\frac{1}{2}$	3 $\frac{3}{4}$	P.	14050	85.00	50	27.87	6	3 $\frac{1}{2}$	7 $\frac{1}{8}$	P.
14032-A	76.00	32	17.85	3	3 $\frac{3}{8}$	4 $\frac{3}{8}$	M.	14050	112.00	50	27.87	6	4 $\frac{1}{2}$	7 $\frac{11}{16}$	M.
14035	62.00	35	19.52	6	2 $\frac{3}{4}$	6 $\frac{11}{16}$	P.	14059	100.00	59	32.88	6	2 $\frac{1}{2}$	6 $\frac{5}{8}$	P.
14036	90.00	36	20.08	6	3 $\frac{1}{8}$	7 $\frac{1}{8}$	M.	14060	129.00	60	33.44	6	4 $\frac{1}{2}$	7 $\frac{5}{8}$	M.
14043-A	65.00	43	23.97	4 $\frac{1}{2}$	3 $\frac{1}{4}$	5 $\frac{7}{8}$	P.	14071	116.00	71	39.56	6	3 $\frac{1}{4}$	6 $\frac{3}{4}$	P.
14043-A	96.00	43	23.97	4 $\frac{1}{2}$	4 $\frac{1}{4}$	6 $\frac{11}{16}$	M.	14072	141.00	72	40.12	6	4 $\frac{1}{16}$	7 $\frac{7}{8}$	M.

*M. = Mortise wheel; P. = Pinion.



Miter Mortise Gears in Pairs

2-Inch Pitch

Miter mortise wheels 2-inch pitch, 7-inch face, under ordinary conditions, will transmit 14.73 horse power at 250 feet per minute on the pitch line, 23.39 horse power at 500 feet, 31.04 horse power at 750 feet, 37.69 horse power at 1,000 feet, 43.90 horse power at 1,250 feet, 49.63 horse power at 1,500 feet, 60.21 horse power at 2,000 feet, 69.17 horse power at 2,500 feet.

Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears	Pattern Number	Price, Bored with K. S. or S. S.	Number of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Standard Length Through Hub, Inches	* Type of Gears
16035	\$ 75.00	35	22.31	7	3 ⁵ / ₁₆	8	P.	16054	\$110.00	54	34.39	7	3 ⁷ / ₁₆	8 ¹ / ₁₆	P.
16036	102.00	30	22.95	7	3 ¹⁵ / ₁₆	8 ⁷ / ₁₆	M.	16054	128.00	54	34.39	7	4 ¹ / ₁₆	8 ³ / ₁₆	M.
16041	88.00	41	26.13	7	3 ¹ / ₂	8 ¹ / ₈	P.	16055	112.00	55	35.03	7	3 ¹ / ₈	8 ³ / ₈	P.
16041	110.00	41	26.13	7	4 ¹ / ₈	8 ⁵ / ₈	M.	16056	132.00	56	35.67	7	4 ¹ / ₂	8 ³ / ₈	M.
16041	86.00	41	26.13	7	3 ¹ / ₂	8 ¹ / ₈	P.	16065	129.00	65	41.40	7	4 ¹ / ₄	8 ¹¹ / ₁₆	P.
16042	114.00	42	26.76	7	4 ¹ / ₂	8 ⁵ / ₈	M.	16066	153.00	66	42.03	7	4 ¹ / ₂	9 ¹ / ₈	M.

2¹/₄-Inch Pitch

Miter mortise wheels 2¹/₄-inch pitch, 8-inch face, under ordinary conditions, will transmit 18.94 horse power at 250 feet per minute on the pitch line, 30.08 horse power at 500 feet, 39.91 horse power at 750 feet, 48.46 horse power at 1,000 feet, 56.45 horse power at 1,250 feet, 63.81 horse power at 1,500 feet, 77.42 horse power at 2,000 feet, 88.94 horse power at 2,500 feet.

18031	\$ 83.00	31	22.24	8	3 ¹ / ₂	8 ¹ / ₄	P.	18054	\$135.00	54	38.70	8	4 ³ / ₈	9 ¹ / ₄	P.
18032	106.00	32	22.95	8	4 ¹ / ₄	9 ¹ / ₄	M.	18054	165.00	54	38.70	8	4 ¹ / ₈	9 ⁷ / ₈	M.
18041	106.00	41	29.39	8	3 ¹³ / ₁₆	9	P.	18065	159.00	65	46.57	8	4 ¹¹ / ₁₆	9 ³ / ₄	P.
18042	132.00	42	30.11	8	4 ¹ / ₄	9 ¹ / ₄	M.	18066	195.00	66	47.29	8	5 ¹ / ₂	10 ¹ / ₄	M.

2¹/₂-Inch Pitch

Miter mortise wheels 2¹/₂-inch pitch, 9-inch face, under ordinary conditions, will transmit 23.67 horse power at 250 feet per minute on the pitch line, 37.60 horse power at 500 feet, 49.89 horse power at 750 feet, 60.57 horse power at 1,000 feet, 70.56 horse power at 1,250 feet, 79.76 horse power at 1,500 feet, 96.77 horse power at 2,000 feet, 111.17 horse power at 2,500 feet.

20036	\$111.00	36	28.68	9	4 ¹ / ₂	10 ¹ / ₄	P.	20059	\$171.00	59	46.98	9	4 ⁷ / ₈	10 ⁵ / ₈	P.
20036	142.00	36	28.68	9	4 ³ / ₂	10 ⁵ / ₈	M.	20060	225.00	60	47.77	9	5 ¹ / ₄	11 ¹ / ₄	M.
20047	140.00	47	37.43	9	4 ¹ / ₂	10 ³ / ₈	P.	20060	175.00	60	47.77	9	5	10 ³ / ₄	P.
20048	184.00	48	38.22	9	5 ¹ / ₄	10 ³ / ₄	M.								

2³/₄-Inch Pitch

Miter mortise wheels 2³/₄-inch pitch, 10-inch face, under ordinary conditions, will transmit 28.93 horse power at 250 feet per minute on the pitch line, 45.95 horse power at 500 feet, 60.97 horse power at 750 feet, 74.03 horse power at 1,000 feet, 86.24 horse power at 1,250 feet, 97.49 horse power at 1,500 feet, 118.28 horse power at 2,000 feet, 135.88 horse power at 2,500 feet.

22040-A	\$162.00	40	35.06	11	3 ¹ / ₂	10 ³ / ₄	P.	22065	\$230.00	65	56.92	10	5 ¹ / ₂	12	P.
22040-A	203.00	40	35.06	11	4 ¹ / ₄	12	M.	22066	300.00	66	57.79	10	6 ¹ / ₂	12 ³ / ₄	M.
22041	152.00	41	35.93	10	4 ³ / ₄	11 ¹ / ₄	P.								
22042	195.00	42	36.80	10	5 ¹ / ₂	11 ³ / ₄	M.								

3-Inch Pitch

Miter mortise wheels 3-inch pitch, 11-inch face, under ordinary conditions, will transmit 34.72 horse power at 250 feet per minute on the pitch line, 55.14 horse power at 500 feet, 73.16 horse power at 750 feet, 88.84 horse power at 1,000 feet, 103.49 horse power at 1,250 feet, 116.98 horse power at 1,500 feet, 141.93 horse power at 2,000 feet, 163.05 horse power at 2,500 feet.

24047	\$210.00	47	44.92	11	5 ³ / ₈	12 ³ / ₈	P.	24050	\$220.00	50	47.78	11	5 ³ / ₈	12 ³ / ₈	P.
24048	270.00	48	45.87	11	6 ¹ / ₈	13 ¹ / ₈	M.	24050	280.00	50	47.78	11	6 ³ / ₈	13 ³ / ₈	M.

*M. = Mortise wheel; P. = Pinion.

Bevel Mortise Gears In Pairs

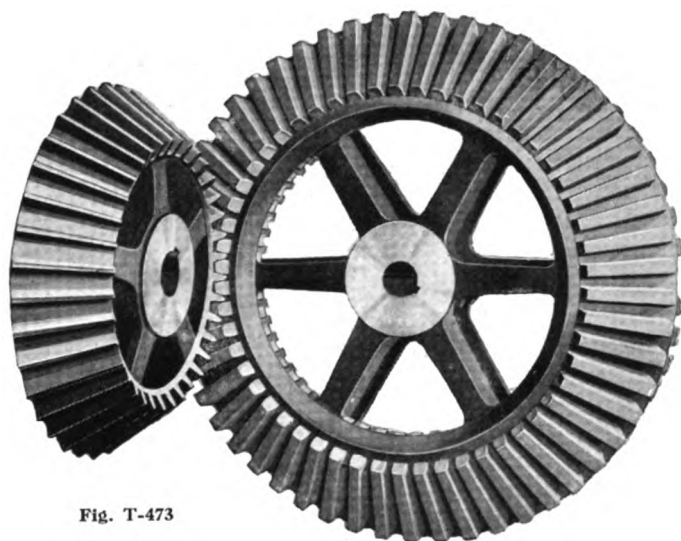


Fig. T-473

Bevel mortise wheels have teeth accurately cut in automatic gear cutters after the wheel is filled, and the teeth of the bevel mortise pinions are also accurately finished in gear cutters.

Setscrews alone should not be depended upon to hold bevel gears in position.

Bevel gears run only in pairs, that is, the pinion of one pair, as given in the following list, will not run at right angles with the gear of another pair.

Prices quoted in the following tables are for gears bored to exact size, with taper keyseats.

1½-Inch Pitch

Bevel mortise wheels 1½-inch pitch, 5-inch face, under ordinary conditions, will transmit 7.89 horse power at 250 feet per minute on the pitch line, 12.53 horse power at 500 feet, 16.63 horse power at 750 feet, 20.19 horse power at 1,000 feet, 23.52 horse power at 1,250 feet, 26.59 horse power at 1,500 feet, 32.26 horse power at 2,000 feet, 37.06 horse power at 2,500 feet.

Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears	Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears
121261	\$ 98.00	48	22.93	5	3 5/8	6	1.26	M.	122081	\$103.00	54	25.80	5	4 1/4	5 1/2	2.08	M.
121262	52.00	38	18.16	5	2 3/4	5 1/2		P.	122082	37.00	26	12.44	5	1 1/2	5 1/2		P.
121311	90.00	42	20.07	5	3 3/8	5 1/2	1.31	M.	122251	103.00	54	25.80	5	4 1/4	5 1/2	2.25	M.
121312	45.00	32	15.30	5	1 7/8	5 1/2		P.	122252	35.00	24	11.49	5	1 1/4	5 1/2		P.
121411	98.00	48	22.93	5	3 3/4	5 1/2	1.41	M.	122361	118.00	66	31.52	5	4 1/2	5 1/2	2.36	M.
121412	47.00	34	16.26	5	1 11/16	5 1/2		P.	122362	40.00	28	13.40	5	1 1/2	5 1/2		P.
121501	98.00	48	22.93	5	3 3/4	5 1/2	1.50	M.	122451	103.00	54	25.80	5	4 1/4	5 1/2	2.45	M.
121502	45.00	32	15.30	5	1 5/8	5 1/2		P.	122452	32.00	22	10.54	5	1 1/2	5 1/2		P.
121571	118.00	66	31.52	5	4 3/8	5 1/2	1.57	M.	123001	125.00	72	34.39	5	5 1/8	5 1/2	3.00	M.
121572	56.00	42	20.07	5	1 7/8	5 1/2		P.	123002	35.00	24	11.49	5	1 1/2	5 1/2		P.
121851	98.00	48	22.93	5	3 11/16	5 1/2	1.85	M.	123271	125.00	72	34.39	5	5 1/8	5 1/2	3.27	M.
121852	37.00	26	12.44	5	1 1/2	5 1/2		P.	123272	32.00	22	10.54	5	1 1/2	5 1/2		P.
122001	108.00	60	28.66	5	4 1/4	5 1/2	2.00	M.	123601	125.00	72	34.39	5	5 1/4	5 1/2	3.60	M.
122002	42.00	30	14.35	5	1 3/4	5 1/2		P.	123602	30.00	20	9.59	5	1 1/4	5 1/2		P.

1¾-Inch Pitch

Bevel mortise wheels 1¾-inch pitch, 6-inch face, under ordinary conditions, will transmit 11.05 horse power at 250 feet per minute on the pitch line, 17.55 horse power at 500 feet, 23.28 horse power at 750 feet, 28.27 horse power at 1,000 feet, 32.93 horse power at 1,250 feet, 37.22 horse power at 1,500 feet, 45.16 horse power at 2,000 feet, 51.88 horse power at 2,500 feet.

141071	\$120.00	60	33.44	6	4 3/8	7 1/2	1.07	M.	142541	\$130.00	66	36.78	6	5 1/8	6 1/4	2.54	M.
141072	94.00	56	31.21	6	3 3/4	7 1/8		P.	142542	48.00	26	14.52	6	1 1/2	6 1/4		P.
141431	120.00	60	33.44	6	4 1/2	7	1.43	M.	142601	151.00	78	43.46	6	5 11/16	6 3/4	2.60	M.
141432	73.00	42	23.42	6	2 1/2	6 13/16		P.	142602	54.00	30	16.74	6	1 1/2	6 1/4		P.
141671	120.00	60	33.44	6	4 3/4	6 3/4	1.67	M.	142831	193.00	102	56.83	6	6 13/16	7 1/4	2.83	M.
141672	63.00	36	20.08	6	1 7/8	6 3/4		P.	142832	63.00	36	20.08	6	1 1/2	6 3/4		P.
141931	112.00	54	30.10	6	4 11/16	6 3/4	1.93	M.	143003	130.00	66	36.78	6	5 3/8	5 3/4	3.00	M.
141932	51.00	28	15.63	6	1 3/4	6 3/4		P.	143004	41.00	22	12.30	6	1 1/2	6 3/4		P.
141941	130.00	66	36.78	6	5 3/8	6 3/4	1.94	M.	143271	141.00	72	40.12	6	5 9/16	5 3/4	3.27	M.
141942	60.00	34	18.97	6	1 9/16	6 3/4		P.	143272	41.00	22	12.30	6	1 1/2	6 3/4		P.
142001	120.00	60	33.44	6	4 11/16	6 3/4	2.00	M.	143921	189.00	102	56.83	6	6 1/4	6 3/4	3.92	M.
142002	54.00	30	16.74	6	1 1/2	6 3/4		P.	143922	48.00	26	14.52	6	1 1/2	6 3/4		P.
142141	120.00	60	33.44	6	5 1/8	6 3/4	2.14	M.	144871	151.00	78	43.46	6	5 3/8	5 3/4	4.87	M.
142142	51.00	28	15.63	6	1 3/4	6 3/4		P.	144872	32.00	16	8.97	6	1 1/4	6 3/4		P.

*M. = Mortise wheel. P. = Pinion.



Bevel Mortise Gears in Pairs

2-Inch Pitch

Bevel mortise wheels, 2-inch pitch, 7-inch face, under ordinary conditions, will transmit 14.73 horse power at 250 feet per minute on the pitch line, 23.39 horse power at 500 feet, 31.04 horse power at 750 feet, 37.69 horse power at 1,000 feet, 43.90 horse power at 1,250 feet, 49.63 horse power at 1,500 feet, 60.21 horse power at 2,000 feet, 69.17 horse power at 2,500 feet.

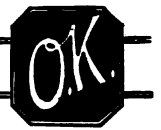
Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears	Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears
161011	\$116.00	48	30.58	7	4 3/8	8 5/8	1.04	M.	161931	\$128.00	54	34.39	7	5 1/4	7 1/2	1.93	M. P.
161042	95.00	46	29.31	7	3 9/8	8 1/4		P.	161932	62.00	28	17.86	7	1 3/4	7 1/4		P.
161111	120.00	50	31.85	7	4 3/8	8 1/4	1.11	M.	161941	140.00	60	38.21	7	5 1/2	7 5/8	1.94	M. P.
161112	93.00	45	28.67	7	3 3/8	8 1/4		P.	161942	67.00	31	19.77	7	1 5/8	7 1/4		P.
161151	140.00	60	38.21	7	4 1/2	8 3/8	1.15	M.	162001	140.00	60	38.21	7	5 5/8	7 5/8	2.00	M. P.
161152	105.00	53	33.12	7	3 1/2	8 3/8		P.	162002	66.00	30	19.13	7	1 11/8	8		P.
161171	128.00	51	34.39	7	4 3/2	8 1/2	1.17	M.	162005	112.00	44	28.04	7	5 1/8	7 1/2	2.00	M. P.
161172	95.00	46	29.31	7	3 3/8	8 1/2		P.	162006	50.00	22	14.05	7	1 9/8	7 1/2		P.
161201	165.00	72	45.84	7	5 5/8	8 1/2	1.20	M.	162121	165.00	72	45.84	7	6 3/8	7 1/2	2.12	M. P.
161202	120.00	60	38.21	7	3 3/8	8 1/2		P.	162122	73.00	34	21.68	7	1 11/8	8		P.
161261	116.00	48	30.58	7	4 3/8	8 1/4	1.26	M.	162141	201.00	90	57.31	7	6 3/4	8 1/4	2.14	M. P.
161262	80.00	38	24.22	7	2 11/8	8		P.	162142	87.00	42	26.76	7	2	8 3/8		P.
161291	128.00	51	34.39	7	4 1/2	8 3/8	1.29	M.	162311	140.00	60	38.21	7	5 1/4	7 3/8	2.31	M. P.
161292	87.00	42	26.76	7	2 11/8	8 1/4		P.	162312	58.00	26	16.59	7	1 1/8	7 11/8		P.
161331	116.00	48	30.58	7	4 3/8	8 1/4	1.33	M.	162501	140.00	60	38.21	7	5 1/8	7 3/4	2.50	M. P.
161332	76.00	36	22.95	7	2 5/8	8		P.	162502	54.00	24	15.32	7	1 3/8	7 1/4		P.
161381	165.00	72	45.84	7	5 5/8	8 1/4	1.38	M.	162541	153.00	66	42.03	7	6	7 1/2	2.54	M. P.
161382	105.00	52	33.12	7	2 11/8	8 1/4		P.	162542	58.00	26	16.59	7	1 1/8	7 1/4		P.
161421	128.00	51	34.39	7	5	8 1/4	1.42	M.	162671	107.00	88	56.03	7	6 3/4	7 11/8	2.67	M. P.
161422	80.00	38	24.22	7	2 1/2	7 1/8		P.	162672	71.00	33	21.04	7	1 9/8	8		P.
161501	116.00	48	30.58	7	4 1/8	8	1.50	M.	162821	213.00	96	61.15	7	7 1/8	8	2.82	M. P.
161502	69.00	32	20.40	7	2 5/8	8		P.	162822	73.00	34	21.68	7	1 1/8	8		P.
161521	160.00	70	44.58	7	5 9/8	7 3/4	1.52	M.	162841	237.00	108	68.76	7	7 5/8	8 1/4	2.84	M. P.
161522	95.00	46	29.31	7	2 11/8	7 3/4		P.	162842	80.00	38	24.22	7	1 3/8	7 1/4		P.
161591	128.00	54	34.39	7	5 1/4	8	1.59	M.	163001	165.00	72	45.84	7	6 9/8	7 1/2	3.00	M. P.
161592	73.00	34	21.68	7	2 5/8	8		P.	163002	54.00	24	15.32	7	1 1/8	7 1/4		P.
161601	116.00	48	30.58	7	4 11/8	7 1/4	1.60	M.	163331	140.00	60	38.21	7	6 1/4	7 1/8	3.33	M. P.
161602	66.00	30	19.13	7	2 1/2	7 1/4		P.	163332	42.00	18	11.52	7	1	7 1/4		P.
161651	153.00	66	42.03	7	5 9/8	8 1/4	1.65	M.	163601	165.00	72	45.84	7	6 1/4	7 1/2	3.60	M. P.
161652	84.00	40	25.49	7	2 3/8	8 1/8		P.	163602	46.00	20	12.78	7	1 11/8	7 1/8		P.

2 1/4-Inch Pitch

Bevel mortise wheels 2 1/4-inch pitch, 8-inch face, under ordinary conditions, will transmit 18.94 horse power at 250 feet per minute on the pitch line, 30.08 horse power at 500 feet, 39.91 horse power at 750 feet, 48.46 horse power at 1,000 feet, 56.45 horse power at 1,250 feet, 63.81 horse power at 1,500 feet, 77.42 horse power at 2,000 feet, 88.94 horse power at 2,500 feet.

181001	\$210.00	72	51.58	8	5 3/4	10 1/4	1.09	M.	182003	\$180.00	60	42.96	8	6 1/4	8 3/8	2.00	M. P.
181002	161.00	66	47.29	8	4 5/8	10		P.	182004	81.00	30	21.52	8	1 11/8	8 1/2		P.
181111	180.00	60	42.99	8	5 1/2	9 11/8	1.11	M.	182201	195.00	66	47.29	8	6 5/8	8 1/2	2.20	M. P.
181112	135.00	54	38.70	8	3 1/2	9 1/8		P.	182202	81.00	30	21.52	8	1 7/8	9		P.
181331	148.00	48	34.40	8	5 1/2	9 1/2	1.33	M.	182251	255.00	90	64.47	8	7 1/2	9 1/8	2.25	M. P.
181332	95.00	36	25.82	8	1 7/8	7 3/8		P.	182252	103.00	40	28.68	8	2	9 1/8		P.
181401	195.00	66	47.29	8	5 11/8	9	1.40	M.	182331	240.00	84	60.16	8	7 9/8	9 1/8	2.33	M. P.
181402	120.00	47	33.68	8	2 5/8	8 1/4		P.	182332	95.00	36	25.82	8	1 11/8	9 1/8		P.
181501	116.00	36	25.82	8	4 11/8	9 1/4	1.50	M.	182501	180.00	60	42.99	8	6 5/8	8 1/2	2.50	M. P.
181502	66.00	24	17.24	8	2 3/8	8 3/4		P.	182502	66.00	24	17.24	8	1 7/8	8 3/4		P.
181581	180.00	60	42.99	8	5 7/8	9 1/8	1.58	M.	182821	270.00	96	68.77	8	8 1/8	8 11/8	2.82	M. P.
181582	90.00	38	27.25	8	2 11/8	9 1/8		P.	182822	90.00	34	24.39	8	1 7/8	8 1/4		P.
181651	195.00	66	47.29	8	5 11/8	9	1.65	M.	183001	240.00	84	60.16	8	7 11/8	8 1/2	3.00	M. P.
181652	103.00	40	28.68	8	3 1/8	9 1/4		P.	183002	76.00	28	20.10	8	1 7/8	8 11/8		P.
181911	132.00	42	30.11	8	5 11/8	8 1/4	1.91	M.	185251	240.00	84	60.16	8	8 7/8	8 3/8	5.25	M. P.
181912	61.00	22	15.81	8	1 11/8	8 1/4		P.	185252	47.00	16	11.53	8	1 11/8	8 3/8		P.
181941	195.00	66	47.29	8	6 1/4	8 5/8	1.94	M.									
181942	90.00	34	24.39	8	2 3/8	9		P.									

*M. = Mortise Wheel. P. = Pinion.



Bevel Mortise Gears in Pairs

2½-Inch Pitch

Bevel mortise wheels 2½-inch pitch, 9-inch face, under ordinary conditions, will transmit 23.67 horse power at 250 feet per minute on the pitch line, 37.60 horse power at 500 feet, 49.89 horse power at 750 feet, 60.57 horse power at 1,000 feet, 70.56 horse power at 1,250 feet, 79.76 horse power at 1,500 feet, 96.77 horse power at 2,000 feet, 111.17 horse power at 2,500 feet.

Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears	Pattern Number	Price, Finished	No. of Teeth	Pitch Diam., Inches	Face, Inches	Back-ing, Inches	Stand-ard Length through Hub, Inches	Speed Ratio	* Type of Gears
201031	\$224.00	60	47.77	9	5 11/16	11 1/4	1.03	M.	201501	\$265.00	72	57.31	9	6 7/8	10 1/2	1.50	M.
201032	169.00	58	46.18	9	4 11/16	10 3/8		P.	201502	142.00	48	38.22	9	3 3/8	10 3/8		P.
201101	208.00	55	43.79	9	4 1/8	9 3/8	1.10	M.	201661	224.00	60	47.77	9	6 5/8	10	1.66	M.
201102	147.00	50	39.82	9	4 1/8	10 3/8		P.	201662	110.00	36	28.68	9	2 11/16	10 1/8		P.
201103	163.00	42	33.45	9	5 3/8	10 3/8	1.10	M.	201751	163.00	42	33.45	9	5 5/8	9 1/2	1.75	M.
201104	116.00	38	30.27	9	3 7/8	10 1/8		P.	201752	78.00	24	19.15	9	2 3/8	9 1/2		P.
201171	163.00	42	33.45	9	5 1/4	10 3/8	1.17	M.	201951	284.00	78	62.08	9	7	9 1/2	1.95	M.
201172	110.00	36	28.68	9	3 3/8	10 1/8		P.	201952	121.00	40	31.86	9	2 1/2	10 1/4		P.
201261	184.00	48	38.22	9	5 5/8	10 3/8	1.26	M.	202001	224.00	60	47.77	9	6 7/8	9 3/8	2.00	M.
201262	116.00	38	30.27	9	3 3/8	10		P.	202002	94.00	30	23.92	9	2 8/16	10 1/8		P.
201291	204.00	54	43.00	9	5 11/16	10 1/4	1.29	M.	202251	265.00	72	57.31	9	7 3/8	9 3/8	2.25	M.
201292	126.00	42	33.45	9	3 3/8	10 1/4		P.	202252	100.00	32	25.51	9	2	10 1/8		P.
201301	224.00	60	47.77	9	6 1/8	10 3/8	1.30	M.	202441	284.00	78	62.08	9	8 1/8	9 1/8	2.44	M.
201302	136.00	46	36.64	9	3 11/16	10 3/8		P.	202442	100.00	32	25.51	9	1 11/16	10 1/8		P.
201311	163.00	42	33.45	9	5 1/8	10 1/8	1.31	M.	202501	224.00	60	47.77	9	7 1/4	9 1/2	2.50	M.
201312	100.00	32	25.51	9	3 3/8	9 11/16		P.	202502	78.00	24	19.15	9	1 11/16	9 11/16		P.
201421	204.00	54	43.00	9	6	10 1/8	1.42	M.	203951-A	265.00	83	66.07	5	8 3/4	7 1/2	3.95	M.
201422	116.00	38	30.27	9	3 1/8	10 1/8		P.	203952-A	70.00	21	16.77	5	1 1/2	5		P.

2¾-Inch Pitch

Bevel mortise wheels 2¾-inch pitch, 10-inch face, under ordinary conditions, will transmit 28.93 horse power at 250 feet per minute on the pitch line, 45.95 horse power at 500 feet, 60.97 horse power at 750 feet, 74.03 horse power at 1,000 feet, 86.24 horse power at 1,250 feet, 97.49 horse power at 1,500 feet, 118.28 horse power at 2,000 feet, 135.88 horse power at 2,500 feet.

221081	\$247.00	54	47.30	10	6 1/8	12	1.08	M.	221541	\$300.00	66	57.79	10	8 1/2	12	1.54	M.
221082	181.00	50	43.80	10	4 7/8	11 5/16		P.	221542	160.00	43	37.68	10	3 9/16	11 1/2		P.
221311	213.00	46	40.30	10	4 7/8	10	1.31	M.	221771	281.00	62	54.20	10	7 3/8	10 11/16	1.77	M.
221312	132.00	35	30.68	10	3 5/8	11 1/4		P.	221772	132.00	35	30.68	10	2 3/4	11 1/8		P.
221421	247.00	54	47.30	10	6 3/8	11 1/4	1.42	M.	221941	300.00	66	57.79	10	7 3/4	10 3/4	1.94	M.
221422	143.00	38	33.30	10	3 1/8	11 1/8		P.	221942	130.00	34	29.80	10	2 5/8	11 1/4		P.

3-Inch Pitch

Bevel mortise wheels 3-inch pitch, 11-inch face, under ordinary conditions, will transmit 34.72 horse power at 250 feet per minute on the pitch line, 55.14 horse power at 500 feet, 73.16 horse power at 750 feet, 88.84 horse power at 1,000 feet, 103.49 horse power at 1,250 feet, 116.98 horse power at 1,500 feet, 141.93 horse power at 2,000 feet, 163.05 horse power at 2,500 feet.

241041	\$289.00	48	45.87	11	6 5/16	13	1.04	M.	241741	\$362.00	66	63.05	11	8	11 3/4	1.74	M.
241042	206.00	46	43.96	11	5 3/4	12 7/16		P.	241742	174.00	38	36.33	11	3 1/8	12 1/4		P.
241251	331.00	60	57.32	11	7 1/4	12 7/8	1.25	M.	241761	331.00	60	57.32	11	7 7/8	11 3/4	1.76	M.
241252	214.00	48	45.87	11	4 11/16	12 5/8		P.	241762	157.00	34	32.51	11	3	12 1/8		P.
241331	269.00	48	45.87	11	7	12 9/16	1.33	M.	241831	302.00	66	63.05	11	8 3/8	11 11/16	1.83	M.
241332	165.00	36	34.42	11	3 11/16	12 1/4		P.	241832	105.00	36	34.42	11	3 1/16	12 1/4		P.
241431	331.00	60	57.32	11	7 1/16	12 3/8	1.43	M.	242001	269.00	48	45.87	11	7 3/8	11 1/8	2.00	M.
241432	190.00	42	40.14	11	3 3/8	12 3/8		P.	242002	116.00	24	22.99	11	2 5/16	11 3/8		P.

*M. = Mortise wheel; P. = Pinion.

Cast-Tooth Worm Gears

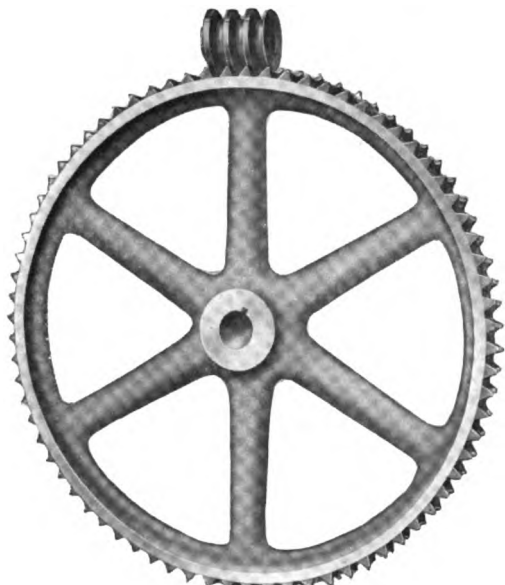


Fig. T-474

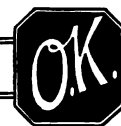
Cast-iron, cast-tooth, worm gears and worms, listed on the following pages, should be used only for slow speed up to 600 feet per minute on the pitch line of the worm. If the load is particularly heavy or the speed excessive, cut tooth gears should be used with housings in order that the gears may run in a bath of oil.

1-Inch Pitch

CAST WHEELS				CAST WORMS						Relation	
Pattern Number	Price of Wheel	No. of Teeth	Extreme Face, Inches	Pattern Number	Price of Worm	Pitch Diam., Inches	Standard Length, Inches	R. or L. Hand	Largest Bore	Speed Ratio	Distance Between Centers
8030-D	\$17.50	30	2 1/4	8044-D	\$7.50	5 1/2	4	R.	3 3/16	15.	7 3/8
8032-D	18.00	32	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	16.	7 45/64
8040-D	21.00	40	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	20.	8 31/32
8050-D	24.90	50	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	25.	10 9/16
8051-A	25.50	51	2	8030	5.50	3 3/4	3 3/4	R.	1 15/16	51.	9 7/8
8062-D	28.00	62	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	31.	12 15/32
8062-B	28.00	62	2	8030	5.50	3 3/4	3 3/4	R.	1 15/16	62.	11 19/32
8070-D	29.90	70	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	35.	13 3/4
8080-D	31.75	80	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	40.	15 21/64
8113-D	38.50	113	2 1/4	8044-D	7.50	5 1/2	4	R.	3 3/16	56.5	20 3/4

1 1/4-Inch Pitch

10011	\$12.00	11	2 3/4	10030	\$5.50	3 3/4	3 3/4	R.	1 15/16	11.	3 7/8
10020	22.55	20	2 3/4	10030	5.50	3 3/4	3 3/4	R.	1 15/16	20.	5 11/16
10024	24.15	24	2 3/4	10030	5.50	3 3/4	3 3/4	L.	1 15/16	24.	6 3/8
10024-A	24.15	24	2 3/4	10032-A	7.50	4	5	R.	2 3/16	24.	6 1/2
10025	24.55	25	2 3/4	10030	5.50	3 3/4	3 3/4	L.	1 15/16	25.	6 43/64
10029	26.15	29	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	29.	7 15/32
10031	26.95	31	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	31.	7 7/8
10035	28.75	35	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	35.	8 21/32
10038	30.10	38	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	38.	9 1/16
10040	31.00	40	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	40.	9 21/32
10041-A	31.45	41	2 3/4	10032-A	7.50	4	5	R.	2 3/16	41.	10
10045	33.25	45	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	45.	10 41/64
10050	35.50	50	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	50.	11 41/64
10055	37.75	55	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	55.	12 5/8
10060	40.00	60	2 3/4	10030	5.50	3 3/4	3 3/4	R. & L.	1 15/16	60.	13 5/8
10128	88.00	128	2 3/4	10030	5.50	3 3/4	3 3/4	R.	1 15/16	128.	27 1/8



Cast-Tooth Worm Gears—Continued

1½-Inch Pitch

CAST WHEELS				CAST WORMS						Relation	
Pattern Number	Price of Wheel	No. of Teeth	Extreme Face, Inches	Pattern Number	Price of Worm	Pitch Diam., Inches	Standard Length, Inches	R. or L. Hand	Largest Bore	Speed Ratio	Distance Between Centers
12019	\$20.50	19	3¼	12036	\$10.00	4½	4½	R. & L.	2⅞	19.	6⅝
12019-D	20.50	19	3¼	12036-D	10.00	4½	4½	R.	2⅞	9.5	6⅝
12020	21.10	20	3¼	12036	10.00	4½	4½	R. & L.	2⅞	20.	6⅝
12021	21.70	21	3¼	12036	10.00	4½	4½	R. & L.	2⅞	21.	7⅞
12023	22.90	23	3¼	12036	10.00	4½	4½	R. & L.	2⅞	23.	7⅞
12031	27.70	31	3¼	12036	10.00	4½	4½	R. & L.	2⅞	31.	9½
12035	30.10	35	3¼	12036	10.00	4½	4½	R. & L.	2⅞	35.	10⅝
12040	33.10	40	3¼	12036	10.00	4½	4½	R. & L.	2⅞	40.	11⅞
12045	36.10	45	3¼	12036	10.00	4½	4½	R. & L.	2⅞	45.	12⅞
12050	39.10	50	3¼	12036	10.00	4½	4½	R. & L.	2⅞	50.	13⅞
12055	42.10	55	3¼	12036	10.00	4½	4½	R. & L.	2⅞	55.	15⅞
12058	43.90	58	3¼	12036	10.00	4½	4½	R. & L.	2⅞	58.	15⅞
12065	48.10	65	3¼	12036	10.00	4½	4½	R. & L.	2⅞	65.	17⅞
12070	51.10	70	3¼	12036	10.00	4½	4½	R. & L.	2⅞	70.	18⅞
12076	54.70	76	3¼	12036	10.00	4½	4½	R. & L.	2⅞	76.	20⅞
12080	57.10	80	3¼	12036	10.00	4½	4½	R. & L.	2⅞	80.	21⅞
12100	69.10	100	3¼	12036	10.00	4½	4½	R. & L.	2⅞	100.	25⅞

1¾-Inch Pitch

14024	\$ 24.00	24	3¾	14042	\$12.00	5¼	5¼	R.	2⅞	24.	9⅞
14028	26.65	28	3¾	14042	12.00	5¼	5¼	R.	2⅞	28.	10⅞
14035	34.65	35	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	35.	12⅞
14040	38.65	40	3¾	14043	12.00	5¼	5¼	R. & L.	2⅞	40.	13⅞
14047	45.35	47	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	47.	15⅞
14050	48.00	50	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	50.	16⅞
14056	53.35	56	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	56.	17⅞
14063	60.00	63	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	63.	19⅞
14065	61.35	65	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	65.	20⅞
14065-D	61.35	65	3¾	14042-D	12.00	5¼	5¼	R.	2⅞	32.5	20⅞
14066	62.65	66	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	66.	20⅞
14066-D	62.65	66	3¾	14042-D	12.00	5¼	5¼	R.	2⅞	33.	20⅞
14075	73.35	75	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	75.	23⅞
14080	80.00	80	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	80.	24⅞
14100	113.35	100	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	100.	30⅞
14120	146.65	120	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	120.	35⅞
14136	173.35	136	3¾	14042	12.00	5¼	5¼	R. & L.	2⅞	136.	40⅞

2-Inch Pitch

16028	\$ 36.00	28	4½	16048	\$16.00	6	6	R.	3⅞	28.	11⅞
16032	40.00	32	4½	16048	16.00	6	6	R. & L.	3⅞	32.	12⅞
16036	45.35	36	4½	16048	16.00	6	6	R. & L.	3⅞	36.	14⅞
16040	49.35	40	4½	16048	16.00	6	6	R. & L.	3⅞	40.	15⅞
16049	60.00	49	4½	16048	16.00	6	6	R. & L.	3⅞	49.	18⅞
16055	66.65	55	4½	16048	16.00	6	6	R. & L.	3⅞	55.	20⅞
16060	73.35	60	4½	16048	16.00	6	6	R. & L.	3⅞	60.	21⅞
16065	80.00	65	4½	16048	16.00	6	6	R. & L.	3⅞	65.	23⅞
16070	86.65	70	4½	16048	16.00	6	6	R. & L.	3⅞	70.	24⅞
16075	94.65	75	4½	16048	16.00	6	6	R. & L.	3⅞	75.	26⅞
16075-D	94.65	75	4½	16048-D	16.00	6	6	R.	3⅞	37.5	26⅞
16076	97.35	76	4½	16048	16.00	6	6	R. & L.	3⅞	76.	26⅞
16076-D	97.35	76	4½	16048-D	16.00	6	6	R.	3⅞	38.	26⅞
16080	104.00	80	4½	16048	16.00	6	6	R. & L.	3⅞	80.	28⅞
16090	120.00	90	4½	16048	16.00	6	6	R. & L.	3⅞	90.	31⅞
16100	140.00	100	4½	16048	16.00	6	6	R. & L.	3⅞	100.	34⅞
16114	166.65	114	4½	16048	16.00	6	6	R. & L.	3⅞	114.	39⅞



Double Belt Double Arm Solid Cast-Iron Pulleys for Elevating and Conveying Service

These pulleys are made extra heavy, bored and turned to size, carefully balanced, key-seated and fitted with set screws. It is customary to use this type of pulley with faces two inches wider than belt and this should be considered when using the following list prices:

Price List

Diam. Inches	Exact Face Width in Inches																		
	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
8	13.50	15.30	18.00	20.70	23.40	26.10	28.80	31.50	34.20	36.90	39.60	43.20	46.80	52.20	56.70	61.20	65.70	70.20	74.70
10	15.75	18.20	20.90	23.40	26.55	29.25	33.30	36.45	39.15	42.30	45.45	49.05	53.10	56.70	61.20	63.45	71.10	75.15	80.10
12	18.45	21.15	23.85	27.00	29.70	32.40	37.80	41.40	44.10	46.80	49.95	54.90	59.85	63.00	68.85	74.25	77.85	84.15	89.55
14	21.15	23.85	27.00	30.15	33.30	36.00	41.40	44.55	47.25	52.65	56.25	61.20	66.15	72.00	76.95	81.90	86.40	90.90	95.85
16	22.50	26.10	30.15	33.30	37.35	40.95	45.00	49.50	53.10	57.60	61.20	67.05	72.90	79.20	83.70	88.20	92.25	97.20	102.60
18	24.30	28.80	33.30	36.90	40.50	44.55	50.40	54.45	58.50	62.55	66.60	71.55	77.85	85.00	91.80	96.30	101.25	106.20	110.70
20	25.65	31.50	36.45	40.95	44.55	48.60	55.80	59.40	63.00	67.50	72.00	76.95	83.25	90.90	97.20	103.50	109.80	116.10	122.40
22	27.90	34.20	39.15	44.55	48.60	53.10	59.40	63.00	70.65	76.05	82.15	88.65	95.40	102.60	108.90	115.65	122.40	129.15	135.90
24	30.15	37.80	42.30	48.15	52.65	57.85	62.55	66.85	78.50	84.60	92.25	100.80	107.55	114.30	120.60	127.80	135.00	142.20	149.40
26	32.40	38.90	44.10	49.95	54.90	62.55	65.90	71.55	81.45	88.65	96.75	105.75	114.30	121.95	129.60	136.80	144.90	152.55	160.20
28	34.65	40.00	46.10	51.75	57.15	67.05	69.30	75.15	84.15	92.70	101.25	110.70	120.60	129.60	138.15	145.80	154.80	162.90	171.00
30	39.15	44.30	49.75	55.80	63.00	71.55	80.55	89.10	98.10	103.95	108.90	117.90	132.30	140.40	147.60	154.80	162.90	169.20	177.30
32	41.40	46.10	50.85	58.50	66.60	76.05	84.15	94.05	103.05	112.05	117.90	126.00	137.70	144.45	153.00	160.65	169.20	178.20	185.40
34	43.20	47.70	51.75	61.20	70.20	79.65	88.20	99.45	108.00	120.15	126.90	134.10	143.55	148.50	158.40	166.50	175.50	187.20	193.50
36	46.35	49.50	57.15	64.35	73.80	83.70	91.80	104.40	112.50	127.80	135.90	142.20	149.40	152.55	163.80	172.80	181.80	196.20	201.60
38	50.85	56.70	62.55	70.45	79.20	88.90	97.20	110.70	120.60	135.00	144.90	153.00	161.55	168.30	179.10	188.10	198.45	209.70	216.90
40	55.80	63.90	69.75	76.50	84.15	93.60	102.60	117.00	128.70	142.20	154.35	163.80	173.70	184.50	194.40	203.85	215.10	223.20	232.20
42	59.40	66.60	77.85	82.80	89.10	97.20	107.55	119.70	131.40	144.00	158.40	175.50	185.40	194.40	203.40	215.10	227.70	240.30	252.90
44	62.10	71.10	81.45	87.30	95.40	104.40	116.10	128.70	142.20	153.00	166.50	180.90	191.70	201.60	212.40	224.10	236.70	249.30	261.00
46	65.70	74.70	85.95	92.70	102.60	112.05	124.20	137.70	149.40	162.00	174.60	188.10	198.90	208.80	221.40	233.10	245.70	258.30	270.00
48	69.75	70.65	90.45	99.00	108.90	119.70	132.30	146.70	158.40	171.00	183.60	197.10	206.10	216.90	230.40	242.10	254.70	268.20	279.00
50	74.70	86.40	98.10	104.40	112.95	123.75	139.50	157.05	171.90	187.20	198.90	211.50	221.40	232.20	249.75	256.50	269.10	282.60	293.40
52	82.80	90.00	101.70	109.80	117.00	129.60	147.60	168.30	185.40	203.40	213.45	225.00	236.70	247.50	259.10	271.80	284.40	306.00	313.20
54	86.40	99.90	107.10	115.20	121.50	132.30	154.80	178.65	198.90	217.80	230.40	241.20	250.20	262.80	270.90	286.20	298.80	311.40	324.00
56	90.00	103.50	111.15	121.50	129.60	139.50	161.10	183.60	203.40	223.20	236.70	250.20	261.90	276.30	299.70	301.50	314.10	326.70	339.30
58	94.50	109.80	121.95	130.50	138.60	146.70	167.40	187.20	207.90	226.80	243.00	259.20	274.50	289.80	309.60	316.80	329.40	342.00	358.20
60	99.45	116.10	131.85	139.50	147.60	154.80	173.70	194.40	212.40	230.40	250.20	269.10	287.10	304.20	320.40	333.00	345.60	358.20	371.25

To obtain list prices of these pulleys made with clamp hubs and solid rims or split rims and split hubs, add to above list prices 12½ and 25 per cent respectively.

Prices for pulleys covered with rubber or leather will be quoted upon application.

Gravity Conveyors

This type of conveyor requires no power as gravity is utilized for its operation. Almost every kind of package can be handled, the nature of the package and its size determining the proper type and size. For successful operation an incline of only a fraction of an inch per foot is required.

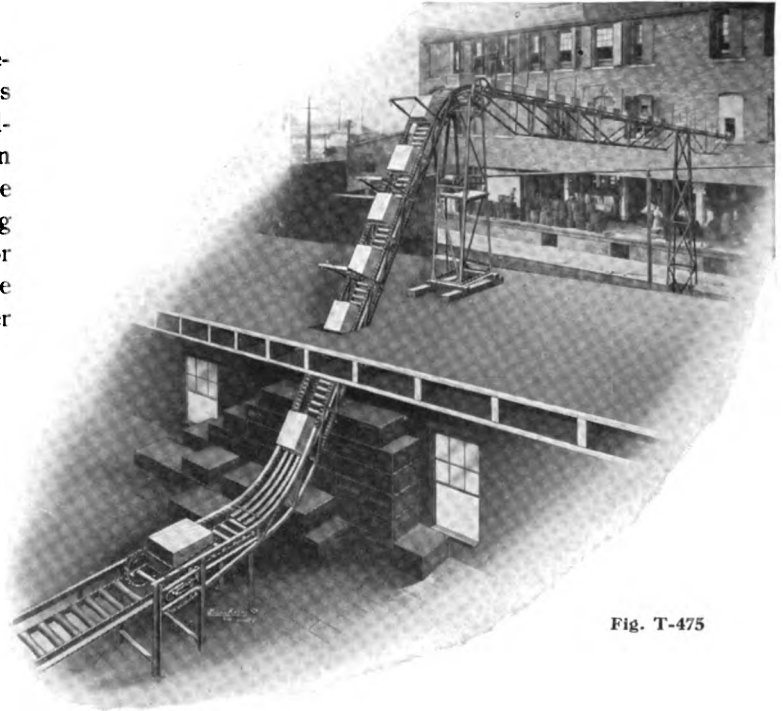


Fig. T-475

Fig. T-475, a phantom view of a gravity roller conveyor, shows a method of conveying material from a warehouse to a shipping platform located at the side of a railroad switch. Automatic elevators raise the packages to the desired height, then discharge automatically to gravity conveyors which are supported by special trussed sections.

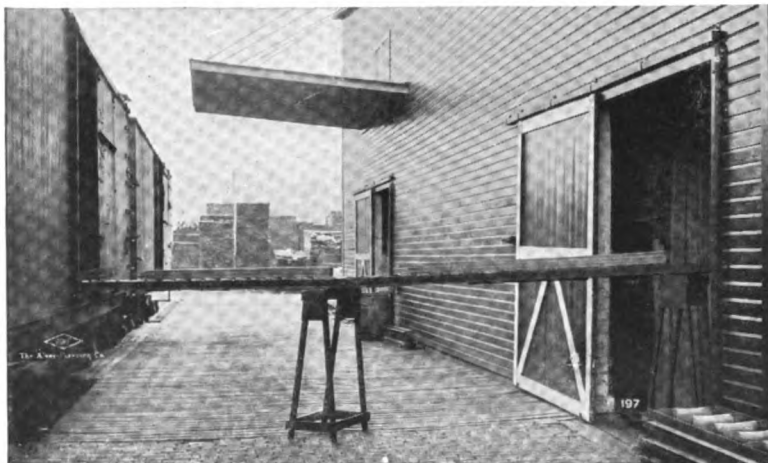


Fig. T-476

Gravity conveyors are adaptable for lumber yards, and for carrying bricks, building tile and even sacks of cement on wood pallets.

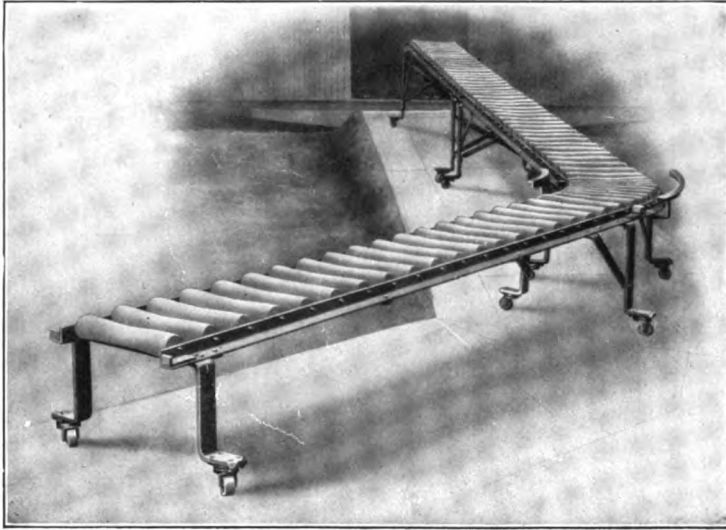


Fig. T-477

Gravity Conveyors

Portable gravity conveyors offer many advantages over hand trucks in saving time and labor. They have many uses—conveying cases from cars to storage, from storage to wagons or between any points which are not definitely fixed.

These conveyors are usually built in 10 foot sections. Each section has two supports with revolving castors attached to the feet.

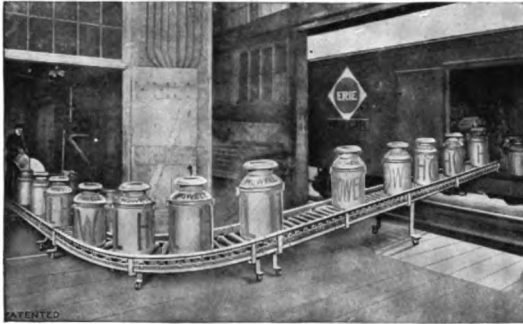


Fig. T-478

A line of any desired length can be obtained by connecting sections. The entire line or any number of sections, can be moved about with the same ease and facility as a truck. Curves to connect sections at any angle can be furnished when required.



Fig. T-479

Fig. T-480 illustrates a gravity conveyor with switch connection. This is a section of a comprehensive system for conveying packed cases to storage, and illustrates the use of a switch for diverting packages to a gravity roller spiral, delivering them automatically to the shipping room, loading platform or into cars.

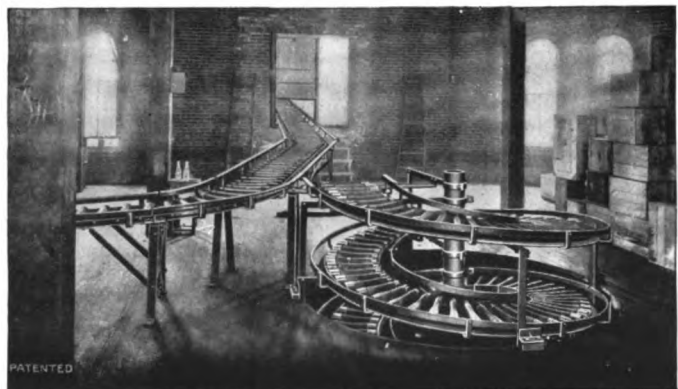


Fig. T-480

Gravity Conveyors

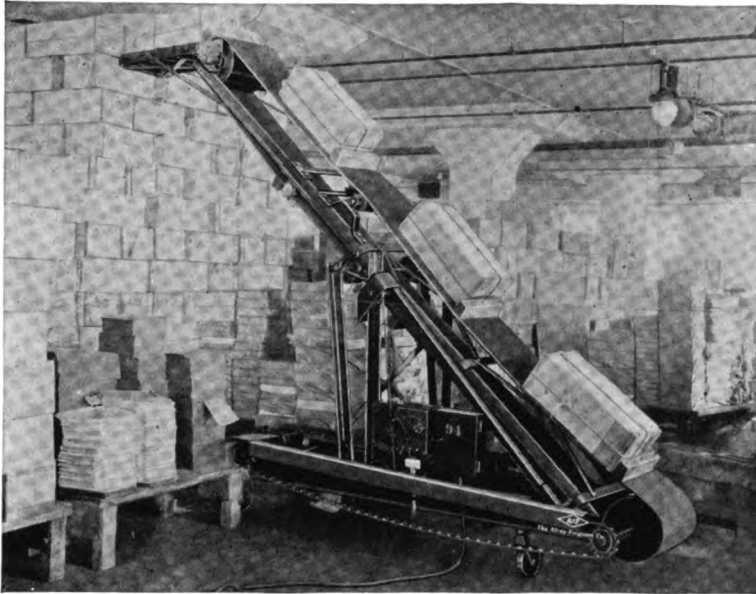


Fig. T-481

Portable power pilers (Fig. T-481) are made for individual requirements but certain standards are carried in stock for immediate shipment.

The conveyor is adjustable to any height and broad gauge castors enable it to be easily moved.

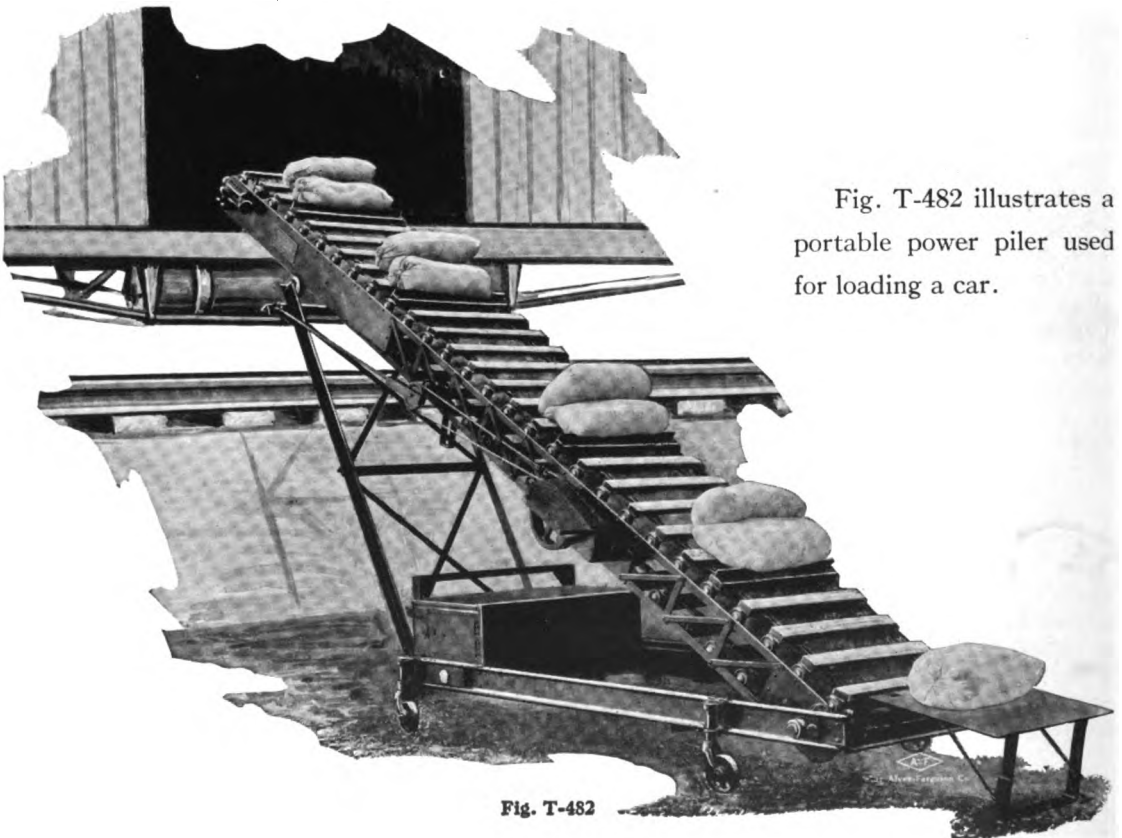


Fig. T-482

Fig. T-482 illustrates a portable power piler used for loading a car.

Gravity Conveyors

Fig. T-483 illustrates a double deck conveyor for carrying boxes to a nailing machine. The boxes are conveyed to the machine on the upper and taken from the machine on the lower line to the storage or shipping point.

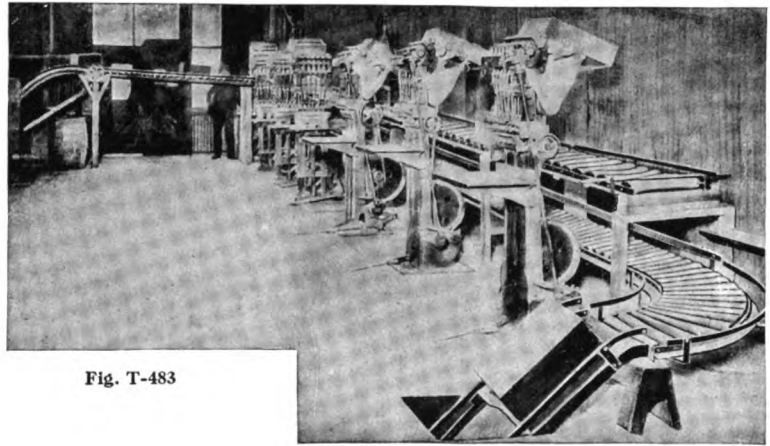


Fig. T-483



Fig. T-484

Style "C" Maple Roller with Steel Cup Ends and Dowel Pins.

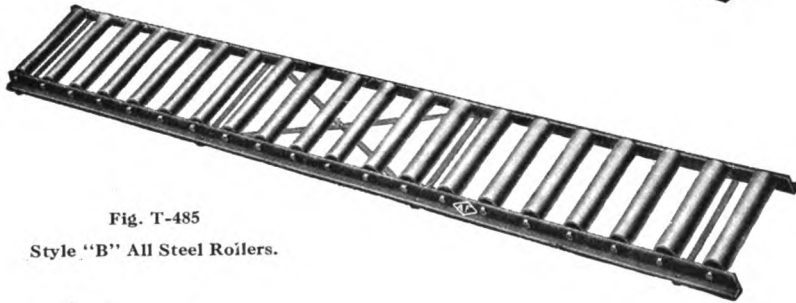


Fig. T-485

Style "B" All Steel Rollers.



Fig. T-486

Style "A" Maple Concave Rollers

Rollers are made to meet all requirements. Several different types can be supplied. The three most prominently used are illustrated by Figs. T-484, 485 and 486.

Fig. T-487 illustrates a ball bearing roller which is made of hard maple covered by a seamless steel tube. Solid steel discs cover each end and are crimped under the steel tube. This roller is particularly recommended for handling extra heavy packages and is used in bottling plants, dairies, etc.

Fig. T-488 is similar in construction to Fig. T-487 except that the steel tube does not cover the entire roller.

Fig. T-489 illustrates an all steel roller having a pressed steel cup at each end, recessed so as to carry the ball bearings mounted on steel studs securely fastened to supporting angles. It is strong, easy running, durable, and suitable for all work requiring an all steel roller.

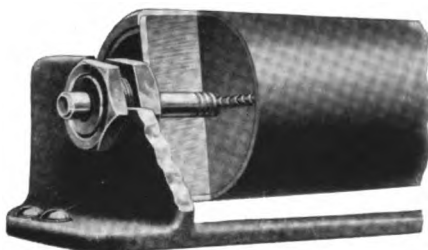


Fig. T-487

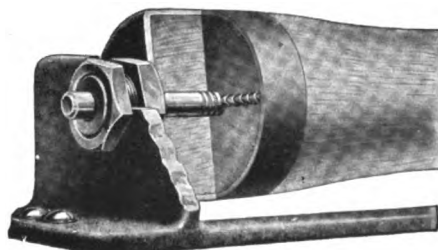


Fig. T-488

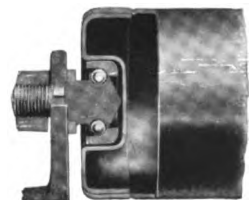


Fig. T-489

Bucket Elevators

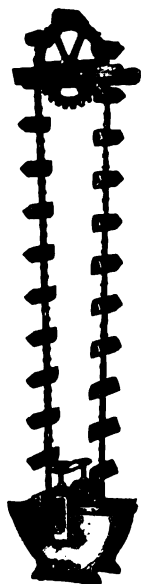


Fig. T-490

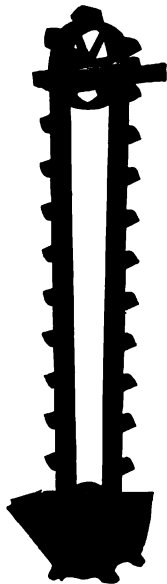


Fig. T-491



Fig. T-492



Fig. T-493

Tray and Arm Elevators

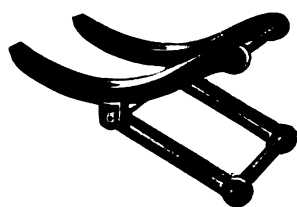


Fig. T-494



Fig. T-495

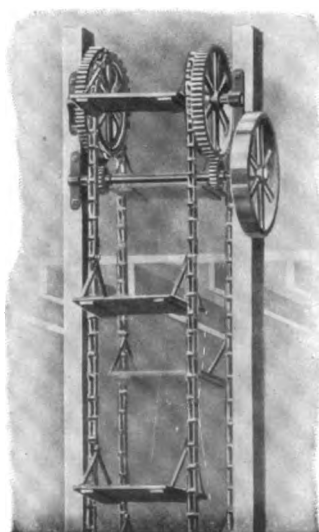


Fig. T-498



Fig. T-496



Fig. T-497

Barrel Elevators



Fig. T-499



Fig. T-500

Wood and Steel Apron Conveyors

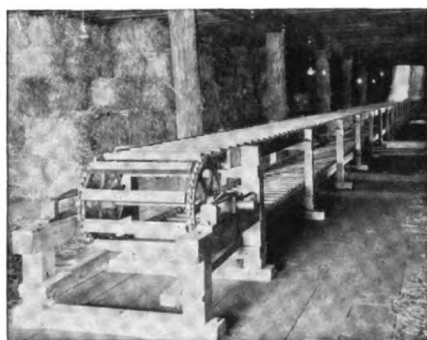


Fig. T-501



Fig. T-502

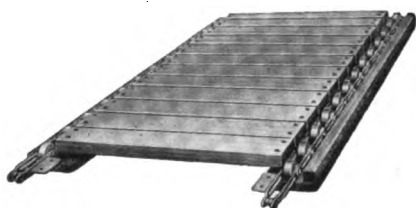


Fig. T-503

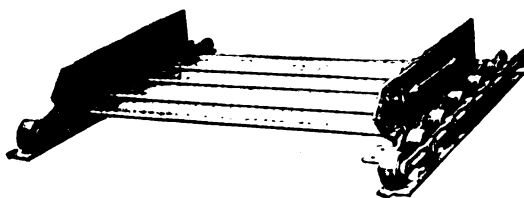


Fig. T-504

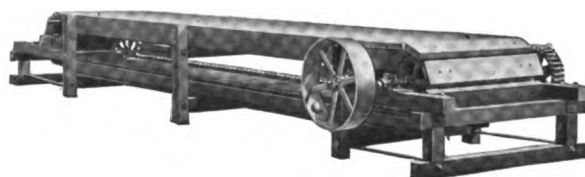


Fig. T-505



Fig. T-506

Scraper Conveyors



Fig. T-507

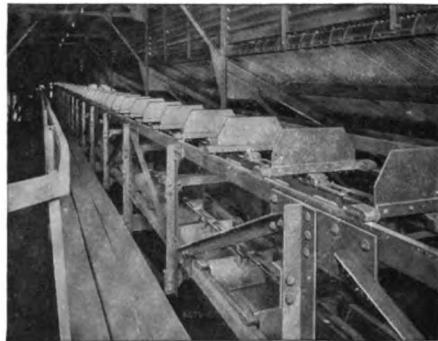


Fig. T-508



Fig. T-509

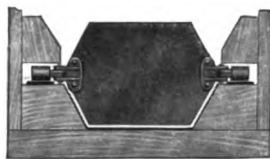


Fig. T-510

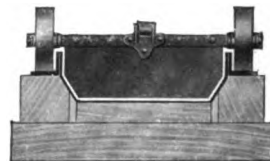


Fig. T-511



Fig. T-512



Fig. T-513

Scraper Conveyor Steel Trough Linings



D-1



D-2



D-3



D-4



D-5

Log, Lumber and Refuse Conveyors



Fig. T-514



Fig. T-515



Fig. T-516



Fig. T-517



Fig. T-518



Fig. T-519

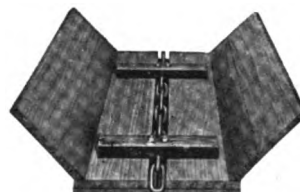


Fig. T-520

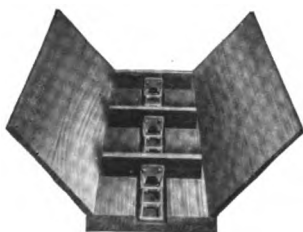


Fig. T-521



Fig. T-522



Fig. T-523

Conveying and Driving Chains



Fig. T-524



Fig. T-540



Fig. T-538



Fig. T-535

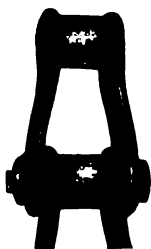


Fig. T-537



Fig. T-536



Fig. T-541



Fig. T-539

Names of Chains	Catalog Page Nos.	General Service Application
Malleable detachable link, Fig. T-524	179 to 184	A general service chain for drives of uniform speed and steady load, for elevating and conveying non-gritty materials or slightly gritty materials—also packages, barrels, boxes, etc.
Riveted drive chain, Fig. T-535	186 to 187	Well adapted for elevator service of moderate speed handling semi-gritty materials, also as a drive chain. Operates satisfactorily on many standard detachable sprockets listed, pages 183 and 184.
Square shank pin malleable iron and steel, Fig. T-536	188 to 191	An excellent hard service chain, fitted to all kinds of heavy duty, especially single and double strand elevators for gritty, dry or damp materials, also for transmitting power.
Steel bushed combination, Fig. T-537	192 to 193	A chain fitted for the same service as the square shank pin combination chain, with the added feature of hardened renewable steel bushings having internal and external wearing surfaces.
Malleable roller, Fig. T-538	194 to 197	An inexpensive roller chain well adapted to wood and steel apron conveyors, also elevators and conveyors handling non-adhesive, non-gritty bulk materials. Many of the short pitches make excellent drive chains.
Steel thimble roller, Fig. T-539	198 to 199	The small sizes make excellent drive chains; the large sizes are especially adapted for aprons, elevators and conveyors of heavy duty. Should not be used in direct contact with adhesive or gritty materials.
Riveted malleable drag, Fig. T-540	200	Riveted drive types. The long pin bearing in the all-malleable link makes it especially adaptable for handling gritty materials.
Flat and round steel link, Fig. T-541	201 to 202	An all-steel welded chain for general elevator and conveyor service under the following conditions: non-gritty; partially protected dry semi-gritty; or liquidly semi-gritty materials, especially where corrosion has given trouble in the use of riveted chains.
Long link coil, Fig. T-542	203 to 205	This chain is extensively used in the logging and lumber industries, also for handling slimes or other liquid and semi-gritty materials that cannot lodge in the joints of the chain. Can be readily repaired by any blacksmith.
Malleable roller log haul-up, Fig. T-553	207	An extra strong malleable roller chain with riveted renewable spurs, suitable for ordinary mill haul-ups.

Working Strengths of Chains at Relative Speeds

Example—No. 102 square shank pin malleable iron and steel chain (page 188) is listed at 2,500 pounds for 150 feet speed per minute. To obtain the working strength at 100 feet speed, multiply the working strength at 150 feet by the 1.05 multiplier opposite 100 feet per minute in the following table. Thus 1.05 times 2,500 pounds is 2,625 pounds working strength at 100 feet speed per minute. For the same chain running at about its maximum speed of 440 feet per minute, the working strength will be .71 times 2,500 pounds or 1,775 pounds.

Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier
20	1.13	120	1.03	220	.93	320	.83	420	.73	520	.63	620	.53	720	.43
40	1.11	140	1.01	240	.91	340	.81	440	.71	540	.61	640	.51	740	.41
60	1.09	160	.99	260	.89	360	.79	460	.69	560	.59	660	.49	760	.39
80	1.07	180	.97	280	.87	380	.77	480	.67	580	.57	680	.47	780	.37
100	1.05	200	.95	300	.85	400	.75	500	.65	600	.55	700	.45	800	.35

Before applying the above table note the limitation of maximum and especially the economical speeds given in tabulated list of the chain used; also the final reduction of working strengths when chain is used in very hard service.

Malleable Detachable Link Chains



Fig. T-524
Plain Chain

This chain is carefully made of a high grade malleable iron under a process of manufacture which insures uniformity of strength, pitch and finish.

It is considered one of the best general service chains.

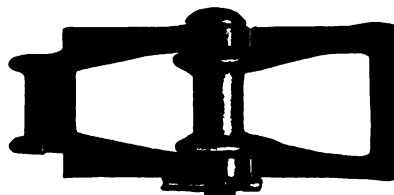


Fig. T-525
Couplers (pair)

Application

Drives—With uniform speed, under non-gritty conditions without intermittent shocks. Support long drives on hard wood guides.

Elevators—For light, non-gritty bulk materials in buckets; also for light package, barrel and tray elevators.

Conveyors—For scrapers in non-gritty materials; for conveyors with slats; for chains in multiple with or without attachments for package transfer, etc.

Sprocket Wheels—Over 100 feet per minute travel use not less than 8 or more than 32 teeth for best results—with 50 teeth as a limit.

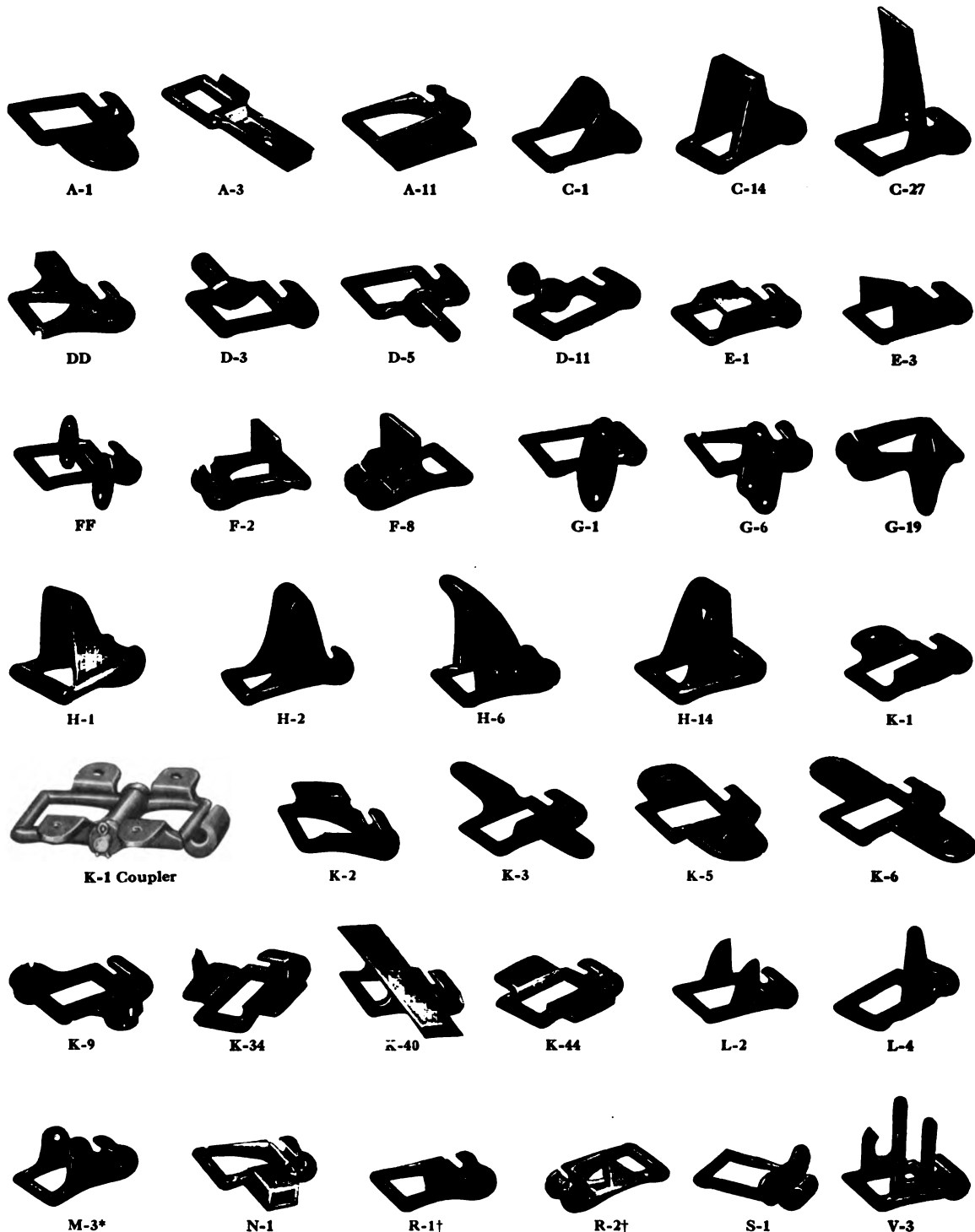
To Obtain a Chain for a Given Horse Power and Speed: Multiply the number of horse power by 33,000 and divide by the speed in feet per minute. The result will be the working strength of a chain corresponding to that speed in the table.

Price List

Chain No.	Working Strengths†—for Speeds in Feet per Minute										
	Plain Chain per Foot	Couplers per pair	Approx. Links in 10 Feet	Approx. Weight per Foot	150 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	700 Ft.
*25	\$.15	\$.15	133	.223	120	114	102	90	78	66	54
*32	.16	.16	104	.343	185	176	157	139	120	102	83
33	.15	.15	86	.322	200	190	170	150	130	110	90
34	.17	.17	86	.402	215	204	183	161	140	118	97
35	.18	.18	74	.402	200	190	170	150	130	110	90
*42	.19	.19	88	.52	250	238	213	188	163	138	113
45†	.16	.16	74	.51	265	252	225	199	172	146	119
51	.23	.23	104	.763	315	299	268	237	205	173	142
*52	.23	.23	80	.85	385	366	327	289	250	212	173
*55†	.20	.20	74	.69	370	352	315	278	241	204	167
57†	.24	.24	52	.89	470	447	400	353	306	259	212
*62	.27	.27	73	1.07	515	489	438	386	335	283	232
66	.32	.32	60	1.22	435	413	370	326	283	239	
67†	.29	.29	52	1.23	555	527	472	416	361	305	
75	.27	.27	46	1.40	670	637	570	503	436	369	
*77†	.32	.32	52	1.45	600	570	510	450	390	330	
*78†	.44	.44	46	2.00	815	774	693	611	530	448	
83	.51	.51	30	1.95	825	784	701	619	536		
85†	.57	.57	30	2.52	1265	1202	1075	949	822		
*88†	.50	.50	46	2.37	960	912	816	720	624	528	
95	.63	.63	30	3.03	1450	1378	1233	1088	943		
*103†	.73	.73	39	4.08	1600	1520	1360	1200	1040		
†104½	.98	.98	26	4.75	1915	1819	1628	1436			
108†	.75	.75	25½	3.45	1650	1568	1403	1238			
*114	.98	.98	37	5.37	1835	1743	1560	1376	1193		
122	1.30	1.30	20	6.87	2500	2375	2125				
*124	1.10	1.10	30	6.49	2115	2009	1798	1586			
Heavy Lines indicate Speed Limits. Economical Speeds, not over half of these Speed Limits.											

Bold face type indicates stock sizes. *Sizes recommended for transmitting power, used also for conveyors. †Sizes recommended for elevators and conveyors, used also for drives. ‡For severe service and shock loads, use one half of working strengths. For proper direction to run chains, see page 182.

Standard Attachments for Detachable Link Chains



*Known as M-1 on No. 25, 33, 45 and 55 Chains. †Made right- and left-hand. Standard Attachments for each Chain listed on page 181.



Standard Attachments for Detachable Link Chains

Price List per Foot

No. 25	No. 42—Con.	No. 52—Con.	No. 67—Con.	No. 88
A-1.....\$.31	K-1.....\$.38	K-5.....\$.79	D-5 with roller ½ inch diam..\$1.70	A-3.....\$1.04
A-3......46	K-3......75	K-9......47	E-1......47	A-11, 2 Holes .72
C-1......41	K-5......49		F-2......58	D-5......93
D-3......44	K-6......72	No. 55	G-1......59	D-K.....1.17
E-1......45	S-1......38	A-1.....\$.34	K-1......52	E-1......87
G-1......45		A-2......47	K-3......74	F-2......90
H-2......32	No. 45	A-3......54		F-8......94
K-1......37	A-1.....\$.31	C-1......37	No. 75	G-1.....1.00
M-1......37	A-3......49	C-8, also known as	F-2.....\$.63	G-6......85
S-1......40	A-14......46	C-5......56	G-1......78	G-19......94
	A-37-LA......45	D-5......55	H-1......46	H-1......92
No. 32	C-1......32	E-1......37	K-1......51	K-1......76
A-1.....\$.29	C-15......48	F-2......41	R-1......47	M-3.....1.27
A-3......36	C-27......55	G-27......52		R-1......58
C-1......39	D-3......61	K-1......39	No. 77	
D-3......55	D-5......51	K-5......49	A-1.....\$.55	No. 95
E-1......27	E-1......26	K-52......63	D-5......64	F-2.....\$1.21
G-1......52	F-2......36	L-2......41	E-1......53	K-2......97
K-1......35	G-1......28	L-21......37	F-2......72	
K-5......42	G-27......46	M-1......56	G-1......64	No. 103
K-6......64	H-2......52	S-1......37	G-6......70	A-4.....\$1.20
M-1......57	K-1......33	S-5......40	H-1......73	A-11.....1.12
	K-1 Coupler per pr......39		K-1......74	D-5.....1.58
No. 33	K-3......64	No. 57	M-3......83	F-2.....1.25
A-1.....\$.26	K-5......42	A-1.....\$.39	R-3......57	F-8.....1.40
E-1......25	K-40......53	D-5......51		G-6.....1.38
K-1......33	K-44......47	E-1......44	No. 78	G-19.....1.28
K-3......59	K-45½.....1.07	F-2......56	A-1.....\$.75	H-2.....1.25
K-5......43	K-48......60	H-2......59	A-3......93	K-1.....1.13
K-6......55	L-2......30	K-1......47	A-11......65	K-2.....1.18
M-1......39	M-1......51		D-5.....1.24	L-2.....1.80
S-1......35	S-1......35	No. 62	E-1......71	M-3.....1.38
	S-5......51	A-1.....\$.46	F-2......8	
No. 34	Scraper No. 22, each......11	A-3......68	G-1......90	No. 104½
A-1.....\$.31	Scraper No. 27, each......13	A-12......64	G-6......80	F-2.....\$1.70
C-1......36		C-1......45	G-19......78	K-2.....1.60
C-2......45	No. 51	C-8......78	H-1.....1.00	
K-1......33	A-1.....\$.56	D-5......60	H-2......88	No. 108
	K-1......60	G-27......57	K-1......66	F-2.....\$1.44
No. 35	K-5......65	K-1......50	M-3......94	K-2.....1.24
A-1.....\$.32	S-1......60	K-5......49	R-1......50	
C-1......34		M-17......76		No. 114
E-1......28	No. 52	S-1......47	No. 83	DD.....\$2.26
K-1......39	A-1.....\$.41		D-5.....\$.93	F-2.....2.38
S-1......36	A-3......46	No. 66	K-1......74	F-8.....2.00
	C-1......48	C-1.....\$.58	M-3......97	K-1.....1.40
No. 42	E-1......50	K-1......74		K-2.....1.45
A-1.....\$.37	F-2......52	No. 67	No. 85	
A-3......65	G-1......58	A-1.....\$.51	F-2.....\$1.00	No. 122
C-1......35	K-1......42	D-5......53	G-6.....1.10	K-2.....\$2.25
E-1......38			K-2......86	
G-27......55				No. 124
				F-2.....\$2.40
				F-8.....2.11
				G-6.....1.83
				K-1.....1.92

Bold face type indicates stock attachments.

Cast-Iron Sprocket Wheels

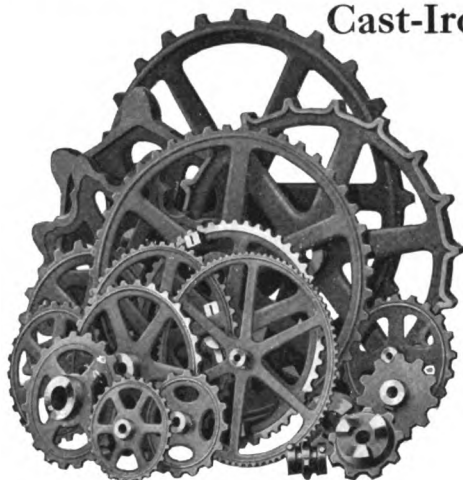


Fig. T-526



Fig. T-527

for all power drives, all horizontal conveyors and also those vertical and inclined elevators where a drive is taken from the elevator foot shaft.

Run the open end of the chain in the direction of the chain travel— (Fig. T-528)

for vertical and inclined elevators where the foot shafts run idle. In such cases use ordinary cast-iron driven sprockets (DN) instead of a driving sprocket at the head of the elevators, permitting the chains to be engaged by the entering instead of the leaving tooth of the sprockets and greatly reducing external and internal wear of the chain.



Fig. T-528

Action of Sprocket Wheels in Chains

A driving sprocket (marked DG on casting) is made to transfer power from the wheel to the chain; a driven sprocket (marked DN on casting) to transfer power from the chain to the wheel.

A driving sprocket is ordinarily made slightly larger than an exact fit to the chain, while a driven sprocket is made slightly smaller.

In the case of both driving and driven sprockets, one tooth at a time takes the chain pull and transfers it to each successive tooth as the wheel rotates. This tooth is the one just in the act of leaving the chain.

Direction to Run Chains on Sprocket Wheels

Chains of the straight side bar type, such as square shank pin combination, run over sprockets equally well in either direction, while those of the off-set side bar type as in the detachable, malleable roller riveted drive, steel bushed and steel thimble roller chains should operate as follows:

Run the hook or head of the chain in the direction of the chain travel (Fig. T-527)

*Extras to be Added to Standard List Prices for Splitting Cast-Iron Sprockets

Pitch Diameter, Inches	Bores in Inches															
	1 $\frac{1}{16}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	3 $\frac{1}{8}$	3 $\frac{1}{4}$	4 $\frac{1}{8}$	4 $\frac{1}{4}$	5 $\frac{1}{8}$	5 $\frac{1}{4}$	6 $\frac{1}{8}$	6 $\frac{1}{4}$
7 $\frac{1}{2}$ and less	\$2.50	\$2.70	\$2.90	\$3.20	\$3.20	\$3.50										
8-11 $\frac{1}{4}$	3.00	3.20	3.40	3.70	3.70	4.00	\$4.20	\$4.40	\$5.00							
12-17 $\frac{1}{4}$	3.40	3.60	3.80	4.00	4.00	4.30	4.50	4.70	5.30	\$6.00	\$8.00	\$9.00				
18-23 $\frac{1}{4}$		4.00	4.20	4.50	4.50	4.80	5.00	5.20	5.80	6.50	8.50	9.50	\$10.80			
24-29 $\frac{1}{4}$		5.60	5.80	6.00	6.00	6.40	6.60	6.80	7.40	8.00	10.00	11.50	12.80	\$14.00	\$16.00	
30-35 $\frac{1}{4}$		6.50	6.70	7.00	7.00	7.30	7.50	7.70	8.30	9.50	11.50	13.50	14.50	15.50	17.50	
36-41 $\frac{1}{4}$		7.30	7.50	7.80	7.80	8.10	8.30	8.50	9.10	10.30	12.50	14.50	15.50	16.50	18.50	
42-47 $\frac{1}{4}$			9.00	9.00	9.30	9.50	9.70	10.50	11.70	14.00	16.00	17.00	18.00	18.00	20.00	
48-53 $\frac{1}{4}$				11.50	11.50	12.00	12.20	12.40	13.50	14.70	17.00	19.00	20.00	21.00	23.00	

*These additional prices apply only when the bore of the sprocket does not exceed the standard maximum bore indicated in price lists of standard sprockets.

*Extras to be Added to Standard List Prices of Sprockets with Hubs Longer and Bores Larger than Standard

Maximum Bores at Regular List, Inches	Maximum Length of Hubs at Regular List, Inches	Add to List for Each Additional Inch of Hub Length	Add to List for Larger Bores as Below													
			1 $\frac{1}{16}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	3 $\frac{1}{8}$	3 $\frac{1}{4}$	4 $\frac{1}{8}$	4 $\frac{1}{4}$	5 $\frac{1}{8}$	5 $\frac{1}{4}$
15 $\frac{1}{16}$	3	\$.30	\$.20	\$.50	\$ 1.10	\$ 1.60	\$ 2.20	\$ 2.70	\$ 3.20	\$ 3.80	\$ 5.10					
1 $\frac{5}{16}$	3	.30	.30	.90	1.40	2.00	2.50	3.00	3.60	4.90						
1 $\frac{7}{16}$	3	.30		.60	1.10	1.70	2.20	2.70	3.30	4.60	\$6.40					
1 $\frac{11}{16}$	4	.40			.50	1.10	1.60	2.10	2.70	4.00	5.80	\$8.30				
1 $\frac{15}{16}$	4	.40				.60	1.10	1.60	2.20	3.50	5.30	7.80	\$10.30			
2 $\frac{1}{16}$	5	.50					.50	1.00	1.60	2.90	4.70	7.20	9.70	\$13.70		
2 $\frac{5}{16}$	5	.60						.50	1.10	2.40	4.20	6.70	9.20	13.20	\$17.60	
2 $\frac{9}{16}$	6	.70							.50	1.90	3.70	6.20	8.70	12.70	17.10	\$20.70
2 $\frac{11}{16}$	6	.70								1.30	3.10	5.60	8.10	12.10	16.50	20.10
2 $\frac{15}{16}$	7	.80									1.80	4.30	6.80	10.80	15.20	18.80
3 $\frac{1}{16}$	7	1.00										2.50	5.00	9.00	13.40	17.00
3 $\frac{5}{16}$	8	1.20											2.50	6.50	10.90	14.50
3 $\frac{9}{16}$	8	1.40												4.00	8.40	12.00
3 $\frac{13}{16}$	9	1.70													4.40	8.00
3 $\frac{15}{16}$	9	2.00														3.60
4 $\frac{1}{16}$	10	2.30														6.00
4 $\frac{5}{16}$	11	2.60														

*An extra charge will be made for hubs larger in diameter than standard.

Sprockets made from patterns listed with arms will be supplied with plate centers on the basis of following extras: 20 per cent for wheels 24-inch pitch diameter and less; 33 $\frac{1}{3}$ per cent for wheels over 24 and not over 36 inches pitch diameter; 50 per cent for wheels over 36 and not over 42 inches pitch diameter; 70 per cent for wheels over 42 inches pitch diameter.

List prices include either set screws or keyway; where both are required an extra charge is made.



Cast-Iron Sprocket Wheels for Detachable Link Chains

Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind
No. 25					No. 32—Continued					Nos. 35, 45, 55—Continued					No. 51—Continued				
1 1/4	4	5/8	\$1.60*	B	17 3/4	48	1 7/16	\$7.60	B	13	25	1 1/16	\$6.35	B	4 1/2	12	1 7/16	\$2.40*	B
1 1/2	5	5/8	1.65*	B	18 1/4	49	1 7/16	7.75	B	13 1/2	26	1 1/16	6.60	B	5	14	1 7/16	2.50*	B
1 3/4	6	3/4	1.70*	B	20 1/2	55	1 7/16	8.65	B	14	27	1 1/16	6.90	B	5 1/2	15	1 7/16	2.65*	B
2	7	3/4	1.75*	B	22	59	1 7/16	9.25	B	14 1/2	28	1 1/16	7.20	B	6	16	1 7/16	2.80*	B
2 1/4	8	3/4	1.80*	B	24	65	1 7/16	10.25	B	15 1/4	29	1 1/16	7.45	B	6 1/2	17	1 7/16	3.00*	B
2 1/2	9	3/4	1.85*	B	No. 33					15 3/4	30	1 1/16	7.70	B	6 3/4	18	1 7/16	3.20*	B
3	10	3/4	1.90*	B	2 1/2	5	3/4	\$1.95*	B	16 1/4	31	1 1/16	8.00	B	7	19	1 7/16	3.30*	B
3 1/4	11	3/4	1.95*	B	2 3/4	6	15/16	2.00*	B	17 3/4	34	1 1/16	8.80	B	8 1/4	22	1 7/16	2.90*	B
3 1/2	12	3/4	2.00*	B	3 1/4	7	15/16	2.05*	B	18 3/4	36	1 1/16	9.40	B	9 3/4	27	1 7/16	4.45	B
3 3/4	13	3/4	2.05*	B	3 3/4	8	15/16	2.10*	B	19 1/4	38	1 1/16	9.90	B	10 1/2	29	1 7/16	5.05	B
4	14	3/4	2.10*	B	4 1/4	9	15/16	2.20*	B	20	39	1 1/16	10.15	B	11	30	1 7/16	5.20	B
4 1/2	15	3/4	2.15*	B	4 3/4	10	15/16	2.30*	B	21	40	1 1/16	10.40	B	11 1/2	31	1 7/16	5.35	B
4 3/4	16	15/16	2.20*	B	5 1/4	11	15/16	2.40*	B	21 3/4	42	1 1/16	11.00	B	11 3/4	32	1 7/16	5.50*	B
5	17	15/16	2.30*	B	5 1/2	12	15/16	2.50*	B	23	44	1 1/16	11.50	B	13	35	1 7/16	6.10	B
5 1/4	18	15/16	2.40*	B	5 3/4	13	15/16	2.75*	B	23 1/4	45	1 1/16	11.80	B	14	38	1 7/16	6.70	B
5 1/2	20	15/16	2.60*	B	6 1/4	14	15/16	2.80*	B	23 3/4	46	1 1/16	12.10	B	14 1/2	40	1 7/16	7.00	B
6 1/4	21	15/16	2.70*	B	7	15	15/16	3.00*	B	24 1/2	47	1 1/16	12.35	B	15 3/4	43	1 7/16	7.45	B
6 1/2	22	15/16	2.80*	B	7 1/4	16	15/16	3.20*	B	24 3/4	48	1 1/16	12.60	B	17 3/4	48	1 7/16	8.40	B
6 3/4	23	15/16	2.90	B	8	18	15/16	3.60	B	26	50	1 1/16	13.20	B	18 1/2	50	1 7/16	8.70	B
7	24	15/16	3.00	B	8 1/2	19	15/16	3.80	B	27 3/4	54	1 1/16	14.50	B	20	54	1 7/16	9.40	B
7 1/4	25	15/16	3.10	B	10	22	15/16	4.40	B	29 1/2	57	1 1/16	15.30	B	22	60	1 7/16	10.60	B
7 1/2	26	15/16	3.20	B	10 3/4	24	15/16	4.70	B	30	58	1 1/16	15.60	B	No. 52				
7 3/4	27	15/16	3.30	B	11 1/2	26	15/16	5.60	B	31 1/4	60	1 1/16	16.40	B	3	6	15/16	\$2.10*	B
8	28	15/16	3.40	B	12	27	15/16	5.20	B	32 1/4	62	1 1/16	17.00	B	3 1/2	7	15/16	2.20*	B
8 1/4	30	15/16	3.60	B	12 1/2	28	15/16	5.40	B	33 1/2	69	1 1/16	20.79	B	4	8	15/16	2.30*	B
10 1/4	35	15/16	3.90	B	14 1/4	32	15/16	6.30	B	36 1/2	76	1 1/16	25.00	B	4 1/2	9	15/16	2.50*	B
10 1/2	36	15/16	4.20	B	15 1/4	34	15/16	6.70	B	43	82	1 1/16	28.50	B	5	10	15/16	2.70*	B
11	38	15/16	4.40	B	16 1/4	36	15/16	7.00	B	No. 42					5 1/2	11	15/16	2.95*	B
11 1/2	40	15/16	4.60	B	17 1/4	38	15/16	7.30	B	2 1/2	5	15/16	\$2.00*	B	6	12	15/16	3.20*	B
11 3/4	41	15/16	4.70	B	18 1/2	41	15/16	7.90	B	2 3/4	6	15/16	2.10*	B	6 1/2	13	15/16	3.45*	B
12	42	15/16	4.80	B	18 3/4	42	15/16	8.10	B	3 1/4	7	15/16	2.15*	B	6 3/4	14	15/16	3.70*	B
12 1/2	43	15/16	5.10	B	23 3/4	53	15/16	10.30	B	3 3/4	8	15/16	2.20*	B	7 1/2	15	15/16	3.60*	B
12 3/4	44	15/16	5.40	B	24 1/4	54	15/16	10.60	B	4 1/4	9	15/16	2.30*	B	7 3/4	16	15/16	4.10*	B
13	45	15/16	5.60	B	30	67	15/16	13.80	B	4 1/2	10	15/16	2.40*	B	8 1/4	17	15/16	4.25*	B
14	48	15/16	5.80	B	36	80	15/16	17.80	B	4 3/4	11	15/16	2.55*	B	8 3/4	18	15/16	4.60*	B
15	52	15/16	6.20	B	36 1/4	81	15/16		B	5 1/4	12	15/16	2.70*	B	9	19	15/16	4.85*	B
16	55	15/16	6.50	B	40 1/2	90	15/16		B	5 3/4	13	15/16	2.85*	B	9 3/4	20	15/16	5.10	B
16 1/4	56	15/16	6.60	B	No. 34					6 1/4	14	15/16	3.00*	B	10 1/4	21	15/16	5.35	B
16 1/2	57	15/16	6.70	B	3 1/4	7	15/16	\$2.05*	B	6 1/2	15	15/16	3.20*	B	10 3/4	22	15/16	5.60	B
18 3/4	64	15/16	7.60	B	4	9	15/16	2.20	B	7	16	15/16	3.40*	B	11	23	15/16	5.85	B
20 1/4	70	15/16	8.20	B	4 1/4	10	15/16	2.30*	B	7 1/2	17	15/16	3.60*	B	12 1/2	25	15/16	6.35	B
22 1/4	77	15/16	9.15	B	5 1/2	12	15/16	2.50*	B	8	18	15/16	3.80*	B	12 3/4	26	15/16	6.60	B
24 1/2	84	15/16	10.40	B	5 3/4	13	15/16	2.65*	B	8 1/4	19	15/16	4.05*	B	13	27	15/16	6.85	B
No. 32					6 1/4	14	15/16	2.80*	B	9 1/2	21	15/16	4.50	B	13 1/2	28	15/16	7.10	A
2	5	5/8	\$1.85*	B	6 3/4	14	15/16	2.80*	B	9 3/4	22	15/16	4.70	B	14	29	15/16	7.35	B
2 1/4	6	3/4	1.90*	B	8	18	15/16	3.60	B	10 1/2	24	15/16	5.10	B	14 1/2	30	15/16	7.60	B
2 1/2	7	3/4	1.95*	B	10	22	15/16	4.40	B	11	25	15/16	5.35	B	15 1/4	31	15/16	7.80	B
3	8	15/16	2.00*	B	12	27	15/16	4.85	B	11 1/2	26	15/16	5.60	B	15 3/4	32	15/16	8.00	B
3 1/2	9	15/16	2.05*	B	16 1/4	36	15/16	7.00	B	11 3/4	27	15/16	5.80	B	16	33	15/16	8.25	B
3 3/4	10	15/16	2.10*	B	20 1/4	45	15/16	8.60	B	12 1/2	28	15/16	6.00	B	16 1/2	34	15/16	8.50	B
4	11	15/16	2.15*	B	24 1/4	54	15/16	10.60	B	12 3/4	29	15/16	6.25	B	18	37	15/16	9.25	B
4 1/2	12	15/16	2.20*	B	Nos. 35, 45, 55					13 1/4	30	15/16	6.50	B	19	39	15/16	9.75	B
5	13	15/16	2.30*	B	2 1/2	4	15/16	\$2.00*	B	14	32	15/16	7.00	B	19 1/2	40	15/16	10.00	B
5 1/4	14	15/16	2.40*	B	2 3/4	5	15/16	2.05*	B	14 1/2	33	15/16	7.20	B	20	41	15/16	10.25	B
5 1/2	15	15/16	2.55*	B	3 1/2	6	15/16	2.10*	B	15 3/4	36	15/16	7.80	B	20 1/2	42	15/16	10.50	B
5 3/4	16	15/16	2.70*	B	4	7	15/16	2.20*	B	17 1/4	40	15/16	8.60	B	22 1/2	46	15/16	11.50	B
6 1/4	17	15/16	2.85*	B	4 1/4	8	15/16	2.30*	B	17 3/4	41	15/16	8.80	B	23 1/4	49	15/16	12.25	B
6 3/4	18	15/16	3.00	B	4 3/4	9	15/16	2.50*	B	20	46	15/16	9.80	B	24 1/4	50	15/16	12.50	B
7	19	15/16	3.15	B	5 1/4	10	15/16	2.70*	B	21 3/4	50	15/16	10.70	B	25 1/4	52	15/16	13.00	B
7 1/2	20	15/16	3.30	B	5 3/4	11	15/16	2.90*	B	23	53	15/16	11.45	B	25 3/4	53	15/16	13.30	B
8	22	15/16	3.60	B	6 1/2	12	15/16	3.10*	B	24	55	15/16	11.95	B	27 3/4	57	15/16	14.50	B
8 1/2	23	15/16	3.75	B	7	13	15/16	3.40*	B	24 3/4	56	15/16	12.20	B	30	62	15/16	16.20	B
8 3/4	24	15/16	3.90	B	7 1/2	14	15/16	3.70*	B	26 1/4	59	15/16	12.95	B	30 1/2	63	15/16	16.60	B
9 1/4	25	15/16	4.05	B	7 3/4	15	15/16	3.95*	B	30	68	15/16	15.00	B	31	64	15/16	17.00	B
9 3/4	26	15/16	4.20	B	8 1/4	16	15/16	4.20*	B	36	82	15/16		B	36	74	15/16	22.00	B
10	27	15/16	4.50	B	8 3/4	17	15/16	4.45*	B	No. 51					Nos. 57, 67, 77				
11 1/4	30	15/16	4.80	B	9 1/2	18	15/16	4.70*	B	2	5	3/4	\$1.95	B	4	5	15/16	\$2.40*	



Cast-Iron Sprocket Wheels for Detachable Link Chains

Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind
No. 57, 67, 77—Continued					No. 66					Nos. 85, 95					No. 108—Continued				
8 1/2	11	1 15/16	\$4.65*		4	6	1 15/16	\$2.40*		7	5	2 7/16	\$5.00*		17 1/4	11	2 15/16	\$11.50	
8 3/4	12	1 15/16	5.00*		5 1/4	8	1 15/16	2.80*	B	8	6	2 7/16	5.50*	B	18 1/2	12	2 15/16	12.50	
10	13	1 15/16	5.40*		6	9	1 15/16	3.25*	B	10 1/4	8	2 15/16	7.00*		20 1/4	13	2 15/16	13.50	
10 1/2	14	2 1/16	5.80*		6 1/2	10	1 11/16	3.70		11 3/4	9	2 15/16	7.75*	B	21 1/2	14	2 15/16	14.50	B
11	15	2 1/16	6.20		7 1/4	11	1 11/16	4.05*	B	13	10	2 15/16	8.50*		25	16	3 1/16	17.50	
12	16	2 1/16	6.60		7 3/4	12	1 11/16	4.40*	B	14 1/4	11	2 15/16	9.50		27 1/4	18	3 1/16	21.00	B
12 1/2	17	2 1/16	7.00		8 1/2	13	1 11/16	4.70*	B	15 1/2	12	2 15/16	10.50		30 1/2	20	3 1/16	23.00	
13 1/4	18	2 1/16	7.40		9	14	1 11/16	5.00*	B	16 3/4	13	2 15/16	11.25		36 1/4	24	3 1/16	30.00	B
14 1/4	19	2 1/16	7.80		9 3/4	15	1 11/16	5.40*	B	18 1/4	14	2 15/16	12.00		42 1/4	28	3 1/16	39.00	
14 3/4	20	2 1/16	8.20		10 1/2	16	2 1/16	5.80*	B	19 1/4	15	2 15/16	12.75	B	44 1/4	29	3 1/16	41.00	
15 1/4	21	2 1/16	8.60		11	17	2 1/16	6.15		20 1/2	16	2 15/16	13.50		47 1/2	31	3 1/16	45.50	
16	22	2 1/16	9.00		11 3/4	18	2 1/16	6.50*		22 3/4	18	2 15/16	15.00		No. 114				
17	23	2 1/16	9.40	B	12 1/4	19	2 1/16	6.85	B	24 1/2	19	2 15/16	16.00		5 1/2	5	1 11/16	\$5.00*	A
17 3/4	24	2 1/16	9.80		13	20	2 1/16	7.20	B	26 3/4	21	2 15/16	18.00	B	6 3/4	6	2 1/16	5.50*	B
19	25	2 1/16	10.20		13 1/2	21	2 1/16	7.60		28	22	2 15/16	19.00		7 1/2	7	2 1/16	5.75*	
19 3/4	27	2 1/16	11.00		14 1/4	22	2 1/16	8.00		29 3/4	23	2 15/16	20.00		8 1/2	8	2 1/16	6.00*	
20 1/2	28	2 1/16	11.40		15 1/2	24	2 1/16	8.60	B	33	26	2 15/16	24.00		9 3/4	9	2 1/16	6.50*	
21 1/4	29	2 1/16	11.80		16 3/4	25	2 1/16	8.90	B	34 1/2	27	2 15/16	26.00	B	10 3/4	10	2 1/16	7.00*	
22 3/4	30	2 1/16	12.20		23 1/4	36	2 1/16	12.60	B	40 3/4	32	2 15/16	37.00	B	11 3/4	11	2 1/16	7.75*	
23 1/2	31	2 1/16	12.60	A	29 3/4	46	2 1/16	16.50		48 1/2	38	2 15/16	47.00	B	12 3/4	12	2 1/16	8.50*	
23 3/4	32	2 1/16	13.00		Nos. 75, 78, 88					No. 103					13 3/4	13	2 1/16	9.00*	
24 1/4	33	2 1/16	13.50		4 1/2	5	1 13/16	\$3.00*		6	6	1 13/16	\$4.00*		15	14	2 1/16	9.50	
25	34	2 1/16	14.00	B	5 1/4	6	1 13/16	3.40*		7	7	1 13/16	4.50*		16 1/2	15	2 1/16	10.25	
26 1/2	35	2 1/16	14.80		6	7	1 13/16	3.70*		8	8	1 13/16	5.00*		17	16	2 1/16	11.00	
28 1/4	38	2 1/16	15.60		6 3/4	8	1 13/16	4.00*		9	9	1 13/16	5.75*		18 1/2	17	2 1/16	11.75	B
28 3/4	39	2 1/16	16.05	B	7 3/4	9	1 13/16	4.50*		10	10	1 13/16	6.50*		19	18	2 1/16	12.50	
29 1/2	40	2 1/16	16.50		8 1/4	10	1 13/16	5.00*		11	11	1 13/16	7.00*		20	19	2 1/16	13.25	
30 1/4	41	2 1/16	17.25		9 3/4	11	1 13/16	5.55*		12	12	1 13/16	7.50*		22	21	2 1/16	15.00	
32	43	2 1/16	18.75		10 1/4	12	1 13/16	6.10*		13	13	1 13/16	8.25*		24	23	2 1/16	16.75	
32 3/4	44	2 1/16	19.50	B	11	13	1 13/16	6.65*		14	14	1 13/16	9.00*		25	24	2 1/16	17.50	
33 3/4	46	2 1/16	21.00	B	12 1/2	14	1 13/16	7.20		15	15	1 13/16	9.50		26 1/2	25	2 1/16	18.50	
36	49	2 1/16	23.25		12 1/2	15	1 13/16	7.60		16	16	1 13/16	10.00		27 1/4	26	2 1/16	19.50	B
38 1/4	52	2 1/16	25.50	B	13 1/2	16	1 13/16	8.00		17	17	1 13/16	10.50		31	30	2 1/16	22.50	
39 1/4	53	2 1/16	26.25	B	14 1/2	17	1 13/16	8.50		17 3/4	18	1 13/16	11.00		33 3/4	32	2 1/16	25.00	B
40	54	2 1/16	27.00		15 1/4	18	1 13/16	9.00		18 3/4	19	1 13/16	11.50		35	34	2 1/16	28.50	
44	60	2 1/16	31.50	B	16 1/2	19	1 13/16	9.50		19 3/4	20	1 13/16	12.00		36 1/2	35	2 1/16	29.75	
44 3/4	61	2 1/16	32.00	B	16 3/4	20	1 13/16	10.00		20 3/4	21	1 13/16	12.75		38	36	2 1/16	31.00	
47 3/4	65	2 1/16	34.75		17 1/2	21	1 13/16	10.50		21 3/4	22	1 13/16	13.50		40	38	2 1/16	35.00	
No. 62					18 1/2	22	1 13/16	11.00		22 3/4	23	1 13/16	14.00		44	42	2 1/16	41.00	B
3 1/4	6	1 15/16	\$2.20*	B	19 1/4	23	1 13/16	11.60		23 1/4	24	1 13/16	14.50		48	46	2 1/16	48.00	B
3 3/4	7	1 15/16	2.30*		20 1/2	24	1 13/16	12.20		24 3/4	25	1 13/16	15.25		No. 122				
4 1/4	8	1 15/16	2.40*		21	25	1 13/16	12.90		25 3/4	26	1 13/16	16.00		16	8	3 7/16	\$14.00	B
4 3/4	9	1 15/16	2.60*		22 1/2	26	1 13/16	13.70	B	26 3/4	27	1 13/16	17.00		18	9	3 7/16	16.00	B
5 1/2	10	1 15/16	2.80*		23	28	1 13/16	14.20		27 3/4	28	1 13/16	18.00		20	10	3 7/16	18.00	
6	11	1 15/16	3.20*		24	29	1 13/16	14.70		28 3/4	29	1 13/16	18.75		22	11	3 7/16	20.00	B
6 1/2	12	1 15/16	3.60*		25	30	1 13/16	15.20		29 1/2	30	1 13/16	19.50		23 3/4	12	3 7/16	22.00	
7	13	1 15/16	3.90*		26	32	1 13/16	16.00		30 1/2	31	1 13/16	20.50		29 1/2	15	3 7/16	24.00	B
7 1/2	14	1 15/16	4.20*		27	33	1 13/16	16.50		31 1/2	32	1 13/16	21.50		31 1/2	16	3 7/16	30.00	B
8	15	1 15/16	4.45*		28	34	1 13/16	17.00	B	33 1/4	33	1 13/16	22.75		37	19	3 15/16	37.50	B
8 1/2	16	1 15/16	4.70*	B	29	35	1 13/16	17.50		33 3/2	34	3 7/16	24.00		48 3/4	25	3 15/16	58.00	B
9	17	1 15/16	4.95*		30	36	1 13/16	18.00		34 1/4	35	3 7/16	25.25		No. 124				
9 1/2	18	1 15/16	5.20*	B	31	37	1 13/16	18.75		35 1/2	36	3 7/16	26.50		9 1/2	7	2 15/16	\$7.00*	B
10 1/4	19	1 15/16	5.60*		32	38	1 13/16	19.50		36 1/2	37	3 7/16	28.25		10 1/2	8	2 15/16	8.00*	
10 3/4	20	2 1/16	6.00		32 3/4	39	1 13/16	20.25	B	37 1/2	38	3 7/16	30.00		12	9	2 15/16	9.50*	
11 1/4	21	2 1/16	6.25	B	33 3/4	40	1 13/16	21.00		39 1/4	40	3 7/16	34.00		13 1/4	10	3 7/16	11.00*	
11 3/4	22	2 1/16	6.50*		36	43	1 13/16	23.50		40 1/2	41	3 7/16	35.50		14 3/4	11	3 7/16	12.00*	
12	23	2 1/16	6.75		37	44	1 13/16	24.50		41 1/2	42	3 7/16	37.00	B	16	12	3 7/16	13.00	
12 3/4	24	2 1/16	7.00		37 3/4	45	1 13/16	25.50	A	43 1/2	44	3 7/16	39.00		17 1/4	13	3 7/16	14.00	
13 1/2	25	2 1/16	7.30		38 1/2	46	1 13/16	26.50		44 1/2	45	3 7/16	40.00		18 1/2	14	3 7/16	15.00	
13 3/4	26	2 1/16	7.60	B	41 1/4	49	1 13/16	29.00		45 1/2	46	3 7/16	41.00	B	19 3/4	15	3 7/16	16.25	
14 1/2	27	2 1/16	7.85		42	50	1 13/16	30.00	B	48	49	3 7/16	45.25		21	16	3 7/16	17.50	
16	30	2 1/16	8.70		48	57	1 13/16	38.00		No. 104 1/2					22 1/2	17	3 7/16	18.75	
17	32	2 1/16	9.20	B	No. 83					10 1/2	7	2 15/16	\$7.50*	B	23 1/2	18	3 7/16	20.00	
18	34	2 1/16	9.80		6 3/4	5	2 7/16	\$4.50*	B	13 3/4	9	2 15/16	9.25*	A	25	19	3 7/16	21.00	
20 1/2	38	2 1/16	11.00		8	6													

Jaw Clutches and Couplings

Cast Jaws



Fig. T-529

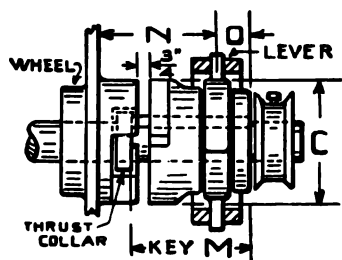
*Left Hand Spiral



Fig. T-530

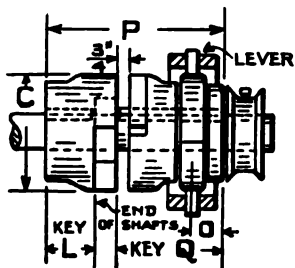
*Right Hand Spiral

Diameter Shaft, Inches	† Wheel Clutch Complete with Shifter Collar	† Clutch Coupling Complete with Shifter Collar	Stationary Half Only		Sliding Half only without Shifter Collar	Shifter Collar only	Internal Thrust Collar only
			Jaw Hub Cast to Wheel	Half of Coupling			
1 1/16	\$ 7.30	\$ 7.70	\$ 1.80	\$ 2.20	\$ 4.20	\$1.30	\$.65
1 1/8	8.35	9.50	2.25	3.40	4.70	1.40	.70
1 1/4	9.40	11.20	2.60	4.40	5.10	1.70	.75
1 1/2	10.50	12.30	2.90	4.70	5.85	1.75	.90
1 5/8	11.55	13.75	3.10	5.30	6.65	1.80	1.00
2 1/16	14.60	17.60	4.25	7.25	8.35	2.00	1.25
2 1/8	17.00	20.30	5.00	8.30	9.35	2.65	1.60
2 1/4	19.00	22.60	5.80	9.40	10.50	2.70	1.80
2 3/8	20.50	24.70	6.30	10.50	11.50	2.70	2.10
2 1/2	25.75	31.30	8.30	13.85	14.45	3.00	2.75
3 1/8	32.60	40.00	10.65	18.05	18.60	3.35	3.30
3 1/4	42.90	52.50	14.00	23.60	25.10	3.80	4.30
4 1/8	46.50	57.50	16.00	27.00	26.00	4.50	4.75



Square Jaw Clutch applied to wheel with clutch. Jaw hub on one side and standard hub on other side.

Diam- eter Shaft, Inches	Dimension in Inches								
	C	O	M	N		L	Q	P	
				Dis- en- gaged as shown	Fully En- gaged			Dis- en- gaged as shown	Fully En- gaged
1 ¹⁵ / ₁₆	3 ¹¹ / ₁₆	1 ¹ / ₈	.....	4 ¹ / ₈	2 ³ / ₄	2 ³ / ₄	.....	7 ¹ / ₂	6 ¹ / ₈
1 ¹³ / ₁₆	4 ¹ / ₈	1 ¹ / ₄	4 ¹ / ₈	4 ¹ / ₂	3	2 ¹⁵ / ₁₆	4 ¹ / ₈	7 ¹ / ₂	6 ³ / ₈
1 ⁷ / ₈	4 ⁷ / ₈	1 ¹ / ₂	4 ⁷ / ₈	5	3 ³ / ₈	3	4 ³ / ₈	8 ¹ / ₂	6 ⁷ / ₈
1 ¹¹ / ₁₆	5 ¹ / ₁₆	1 ¹ / ₄	5	5 ¹ / ₄	3 ⁵ / ₈	3 ¹ / ₄	4 ⁷ / ₈	9	7 ⁷ / ₈
1 ¹⁵ / ₁₆	5 ¹¹ / ₁₆	1 ³ / ₄	5 ¹⁵ / ₁₆	5 ¹¹ / ₈	4 ¹ / ₈	3 ³ / ₈	5 ¹ / ₄	9 ³ / ₈	8 ¹ / ₈
2 ¹ / ₁₆	6 ³ / ₁₆	1 ⁷ / ₈	5 ¹³ / ₁₆	6 ¹ / ₄	4 ¹ / ₂	3 ¹⁵ / ₁₆	5 ¹¹ / ₁₆	10 ³ / ₈	8 ⁷ / ₈
2 ⁷ / ₁₆	6 ¹¹ / ₁₆	1 ⁵ / ₈	6 ¹ / ₂	6 ³ / ₄	4 ⁷ / ₈	4 ¹ / ₂	6 ¹ / ₈	11 ¹ / ₂	9 ³ / ₈
2 ¹¹ / ₁₆	7 ⁵ / ₁₆	1 ³ / ₄	6 ⁷ / ₈	7 ¹ / ₄	5 ¹ / ₄	4 ³ / ₄	6 ¹ / ₂	12 ¹ / ₄	10 ¹ / ₄
2 ¹⁵ / ₁₆	7 ¹⁵ / ₁₆	1 ¹⁵ / ₈	7 ¹ / ₂	8 ¹ / ₂	5 ³ / ₈	4 ¹⁵ / ₁₆	6 ¹⁵ / ₁₆	13 ¹ / ₄	11
3 ¹ / ₈	8 ¹⁵ / ₁₆	2 ¹ / ₈	7 ⁷ / ₈	8 ³ / ₄	6 ¹ / ₄	5 ¹ / ₂	7 ¹ / ₂	14 ¹ / ₄	11 ⁷ / ₈
3 ¹¹ / ₁₆	9 ³ / ₁₆	2 ¹ / ₄	9 ¹ / ₄	10 ¹ / ₄	7 ³ / ₈	6 ¹ / ₂	8 ¹ / ₄	17	14 ³ / ₈
4 ¹ / ₈	10 ¹ / ₂	2 ³ / ₄	9 ³ / ₂	10 ³ / ₂	7 ⁷ / ₈	6 ³ / ₄	9 ³ / ₄	17 ³ / ₄	15
4 ¹⁵ / ₁₆	11 ³ / ₈	2 ¹ / ₂	10 ¹ / ₄	11 ³ / ₈	8 ¹ / ₂	7	9 ⁷ / ₈	19	16 ¹ / ₂



Square Jaw Clutch Coupling

Right-hand Clutch

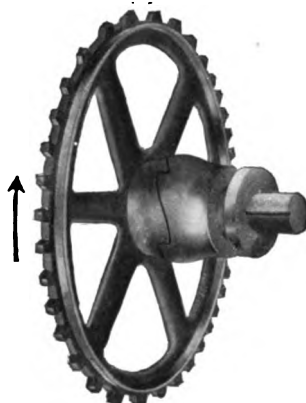


Fig. T-531
Clutch Drives Wheel

Left-hand Clutch



Fig. T-532
Wheel Drives Clutch

Left-hand Clutch



Fig. T-533
Clutch Drives Wheel

Right-hand Clutch



Fig. T-534
Wheel Drives Clutch

*Arrows indicate direction of rotation for both right-hand and left-hand spiral clutches where the sliding halves drive the stationary halves. Rotation is in the opposite direction from that shown where stationary halves drive the sliding halves.
†Consisting of stationary half for wheel (cast to hub) with thrust collar also sliding half with shifter collar. Lever and yoke extra.
‡Consisting of stationary half also sliding half with shifter collar. Lever and yoke extra.
Clutches have either two square jaws or three spiral jaws. Square jaws furnished unless spiral jaws are specified.

Riveted Drive Chains

These chains are made with riveted pins (Fig. T-535), unless otherwise ordered.

Riveted drive chains were primarily designed to operate on wheels for detachable chains, pages 183 and 184. These are listed in the fifth column of following table. Most satisfactory results are assured when chain wheels listed page 187 are used.

For proper direction to run chain see page 182.

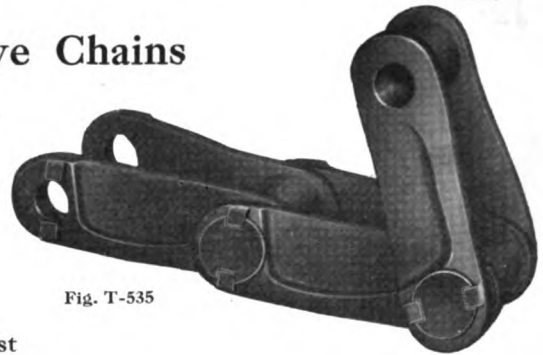


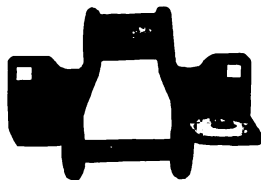
Fig. T-535

Price List

Chain Number	List Price Plain Chain per Ft.	Approx. Links, 10 Feet	Approx. Weight per Foot	†Working Strength in Lbs. at 150 Ft. per Min.	**Max. Speed Feet per Min.	Detachable Wheel Numbers (see Note Above)	Dimensions in Inches			
							Diameter of Boss	Overall Width	Overall Depth	Diameter Pin
*60R	\$.38	52	2.11	1100	600	57, 67, 77	$1\frac{1}{16}$	$2\frac{3}{8}$	$\frac{3}{4}$	$\frac{5}{16}$
60H	.45	52	2.25	1300	600	57, 67, 77	$1\frac{1}{16}$	$2\frac{3}{8}$	$\frac{15}{16}$	$\frac{3}{8}$
*73R	.53	51	4.08	2000	500		$\frac{31}{32}$	$2\frac{7}{8}$	$1\frac{1}{16}$	$\frac{7}{16}$
*74R†	.41	46	2.79	1500	600	75, 78, 88	$\frac{29}{32}$	$2\frac{9}{16}$	$\frac{15}{16}$	$\frac{3}{8}$
75R	.38	46	2.09	1200	600	75, 78, 88	$\frac{23}{32}$	$2\frac{3}{4}$	$\frac{3}{4}$	$\frac{5}{16}$
*78R†	.56	46	4.18	2300	500	75, 78, 88	1	3	1$\frac{1}{8}$	$\frac{1}{2}$
82R†	.75	39	5.62	3000	500	103	$\frac{13}{16}$	$3\frac{5}{8}$	$1\frac{1}{4}$	$\frac{9}{16}$
87R	.98	30	6.96	3800	400	124	$\frac{11}{16}$	$3\frac{15}{16}$	$1\frac{3}{8}$	$\frac{5}{8}$
95R	.68	30	5.08	2700	400	95	$1\frac{1}{8}$	$4\frac{1}{32}$	$1\frac{3}{16}$	$\frac{1}{2}$
108R	.75	21.2	5.81	3500	300	108		$4\frac{3}{4}$	$1\frac{5}{16}$	$\frac{9}{16}$
*124R†	1.13	30	8.44	5000	300		$1\frac{7}{16}$	$4\frac{5}{8}$	$1\frac{9}{16}$	$\frac{3}{4}$

Bold face type indicates stock sizes. *Sizes recommended for transmitting power, used also for conveyors. †Sizes recommended for elevators and conveyors, used also for drives. ‡Working strengths in table are increased or decreased for speeds other than 150 ft. per min. See table, page 178. Use half of values thus obtained for service in gritty materials. **Economical speeds are half of maximum speeds.

Standard Stock Attachments



B and F or F-4



K-1—Formerly F-1



K-2—Formerly F-2

Standard Attachments—Made to Order



AS

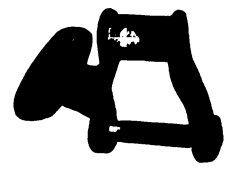
Known also as "A" same as AS spur reversed on and known as H-2.



C-1*



G-6*



G-19*



M-3

*Made Right and Left-Hand



N or R-1* (Formerly N-1)



NN or R-2 (Formerly N-1-1½; also R-21)



NL



Attachments for Riveted Drive Chains

Price List

Chain Number	A or H-2	AS or H-1	B and F or F-4	K-1 or F-1	K-2 or F-2	G-1	G-6	G-19	M-3	NL	N or R-1	NN or R-2	Coupling Pins per 100	Rivets per 100
60-R	\$.60		\$.68	\$.53							\$.53	\$.60	\$ 2.45	\$ 1.40
73-R	.75		.98	.68							.68	.75	3.75	2.55
74-R	.68	\$.68	.83	.53							.53	.60	3.30	2.10
75-R	.60		.60	.53					\$.68		.45	.50	2.55	1.50
78-R	.90	.90	.98	.75		\$.75	\$.83				.68	.75	4.10	2.40
82-R	1.05		1.13	.98	\$1.05		1.05	\$.90	.90		.90		6.15	4.50
87-R			1.35		1.28					\$1.80			6.35	4.50
95-R			1.13		.90			1.35					4.85	3.35
108-R			1.20						1.50	2.25			6.60	5.00
124-R			1.50		1.50								13.00	10.00

Bold face type indicates stock sizes.

Cast-Iron Sprocket Wheels for Riveted Drive Chains

Price List

Pitch Diam., Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Pitch Diam., Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Pitch Diam., Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind
Nos. 60-R and 60-H					Nos. 74-R, 75-R and 78-R					No. 82-R—Continued				
5 1/4	7	1 1/16	\$ 2.40*		6	7	1 1/16	\$ 3.10*		23 1/2	24	3 1/16	\$11.20	B
6	8	1 1/16	2.55*		6 3/4	8	1 1/16	3.30*		25 1/2	26	3 1/16	12.25	
6 3/4	9	1 1/16	2.70*		7 1/4	9	2 1/16	3.50*		26 1/2	27	3 1/16	12.75	B
7 1/4	10	2 1/16	2.90*		8 1/4	10	2 1/16	3.75*		27 1/2	28	3 1/16	13.30	B
8 1/4	11	2 1/16	3.10*		9 1/4	11	2 1/16	4.00*		29 1/2	30	3 1/16	14.40	B
9	12	2 1/16	3.30*		10	12	2 1/16	4.30		30 1/2	31	3 1/16	15.20	B
9 1/2	13	2 1/16	3.50*		10 3/4	13	2 1/16	4.60		32 1/2	33	3 1/16	16.00	B
10 1/4	14	2 1/16	3.75*		11 3/4	14	2 1/16	4.90		35 1/2	36	3 1/16	19.25	B
11	15	2 1/16	4.00		12 1/4	15	2 1/16	5.20		37 1/2	38	3 1/16	21.20	B
11 3/4	16	2 1/16	4.25		13 1/4	16	2 1/16	5.55		39 1/2	40	3 1/16	23.10	B
12 1/2	17	2 1/16	4.50		14 1/4	17	2 1/16	5.90		41	42	3 1/16	24.80	B
13 1/4	18	2 1/16	4.75		15	18	2 1/16	6.25		43	44	3 1/16	26.50	B
14	19	2 1/16	5.00		15 3/4	19	2 1/16	6.60		45	46	3 1/16	28.20	B
14 3/4	20	2 1/16	5.25		16 3/4	20	2 1/16	6.95		47 3/4	49	3 1/16	30.75	B
15 1/2	21	2 1/16	5.50		18 1/4	22	2 1/16	7.65		No. 87-R				
16 1/4	22	2 1/16	5.75		20	24	2 1/16	8.35		10 1/2	8	2 1/16	\$ 7.90*	B
17	23	2 1/16	6.00		20 3/4	25	2 1/16	8.70		11 3/4	9	2 1/16	8.40*	B
17 3/4	24	2 1/16	6.25		22	26	2 1/16	9.05	B	13	10	3 1/16	9.10*	B
18 1/4	25	2 1/16	6.50		22 1/2	27	2 1/16	9.40		14 1/2	11	3 1/16	9.80*	B
19 1/2	26	2 1/16	6.75	B	23 1/4	28	2 1/16	9.75		15 3/4	12	3 1/16	10.50	B
19 3/4	27	2 1/16	7.10		24 1/4	29	2 1/16	10.10		17	13	3 1/16	11.35	B
20 1/2	28	2 1/16	7.35		25	30	2 1/16	10.45		18 1/4	14	3 1/16	12.20	
22	30	2 1/16	7.90		27 1/2	33	2 1/16	11.55		19 1/2	15	3 1/16	13.00	
23	31	2 1/16	8.20	B	28 1/4	34	2 1/16	11.95		20 3/4	16	3 1/16	14.00	
24 1/4	33	2 1/16	8.80		29 1/4	35	2 1/16	12.35		22	17	3 1/16	15.00	
25	34	2 1/16	9.10	B	30	36	2 1/16	12.75		23	18	3 1/16	16.00	
26 1/2	36	2 1/16	9.70		31	37	2 1/16	13.20		24 1/2	19	3 1/16	17.00	
28 3/4	39	2 1/16	10.60	B	32 1/2	39	2 1/16	14.10		26	20	3 1/16	18.00	
29 1/4	40	2 1/16	10.90		33 1/2	40	2 1/16	14.60		28 1/2	22	3 1/16	20.25	
32 1/2	44	2 1/16	12.10	B	36 3/4	44	2 1/16	16.75		29 3/4	23	3 1/16	21.35	
33 3/4	46	2 1/16	12.75		38 1/2	46	2 1/16	17.85		31	24	3 1/16	22.50	
35 1/4	48	2 1/16	13.40		41	49	2 1/16	19.50	B	32 1/2	25	3 1/16	23.65	B
36	49	2 1/16	13.75		42	50	2 1/16	20.00		36 1/4	28	3 1/16	27.40	
38 1/2	52	2 1/16	14.80	B	45	54	2 1/16	22.50		39	30	3 1/16	30.00	
39 3/4	54	2 1/16	15.50		48 1/2	58	2 1/16	24.80		No. 95-R				
43 3/4	60	2 1/16	17.60		No. 73-R					16 3/4	13	2 1/16	\$ 8.40	B
					5 1/4	7	1 1/16	\$ 3.40*		24	19	2 1/16	12.40	
					6 1/4	8	1 1/16	3.60*		No. 108-R				
					7	9	2 1/16	3.85*		Sprockets on application				
					7 1/2	10	2 1/16	4.15*		No. 124-R				
					8 1/2	11	2 1/16	4.40*	B	13 1/2	10	3 1/16	\$10.80	B
					8 3/4	12	2 1/16	4.70*	A	17 1/2	13	3 1/16	14.30	B
					11 1/2	15	2 1/16	5.90		18 1/2	14	3 1/16	15.55	B
					13 3/4	18	2 1/16	7.10	B	22 1/2	17	3 1/16	19.80	B
					17 1/2	23	2 1/16	8.85	B	28 1/2	22	3 1/16	28.00	
					18 1/4	24	2 1/16	9.20	B	36 1/2	28	3 1/16	36.60	A
					20	26	2 1/16	10.65	B	38 1/2	30	3 1/16	39.90	
					24	32	2 1/16	12.10	B					
					30 1/4	41	2 1/16	16.00	B					
					36	48	2 1/16	19.00	B					
					No. 82-R									
					8	8	2 1/16	\$ 4.40*	B					
					9	9	2 1/16	4.80*	B					
					9 3/4	10	2 1/16	5.25*	B					
					10 3/4	11	2 1/16	5.65*	B					
					11 3/4	12	2 1/16	6.05*	B					
					12 3/4	13	3 1/16	6.45*	B					
					13 3/4	14	3 1/16	6.85*	B					
					14 3/4	15	3 1/16	7.25	B					
					15 3/4	16	3 1/16	7.65	B					
					16 3/4	17	3 1/16	8.05	B					
					17 1/2	18	3 1/16	8.45	B					
					18 1/2	19	3 1/16	8.90	B					
					19 1/2	20	3 1/16	9.40	B					
					21 1/2	22	3 1/16	10.35						
					22 1/2	23	3 1/16	10.80	B					

*Plate center wheels; all others have arms.

Extra charges for large bores, long hubs, split hubs and set screws over keyway, see page 182.

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application.

Always state which are the driving and which are driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated both kinds are made.

Square Shank Pin Malleable Iron and Steel Chains

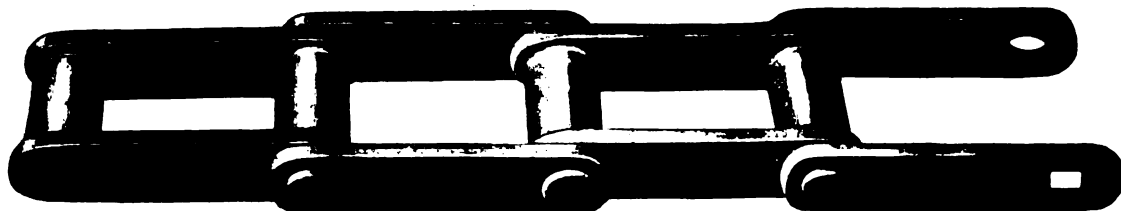


Fig. T-536



Fig. T-536A
Coupling Pin



Fig. T-536B
Rivet Pin

Designed especially for extra heavy work in handling gritty materials in cement plants, chemical works, mines, etc., and also extensively used for general elevating and conveying work.

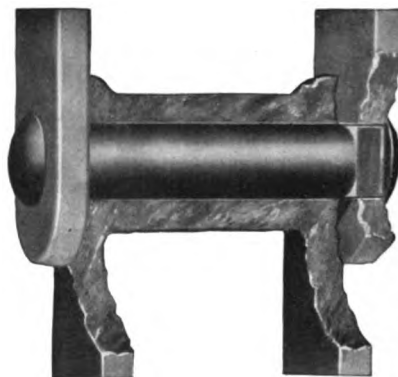


Fig. T-536C

This chain is regularly furnished with riveted pins, but can be supplied on special order with pins fitted with cotters or nuts and cotters.

Chain Numbers	Pitch, Inches	Approx. Weight per Foot, Lbs.	Working Strength, 150 Feet per Min.†	Max. Speed, Feet per Min.††	Detachable Wheel Numbers	Dimensions in Inches				
						Side Bar		Diameter Pins	Overall Width	Diam. Boss Around Pin
						Width	Thick			
102†	3.96	9.2	2500	450	85-95	1 1/2	3/8	1/2	4 1/4	1
102-B	3.96	9.2	3900	450	85-95	1 1/2	3/8	5/8	4 1/4	1
*102 1/2†	4.03	12.0	5600	400		1 3/4	3/8	3/4	4 5/8	1 3/8
102 1/2 Sp	4.04	12.0	6600	300		2	3/8	7/8	5	1 9/16
102 1/2 ASp	4.04	12.0	7500	300		2	3/8	1 ***	5	1 9/16
110†	6.00	9.0	3900	350		1 1/2	3/8	5/8	4 3/8	1 1/4
111†	4.78	9.6	5600	400	108	1 3/4	3/8	3/4	5	1 3/8
**111 Sp†	4.78 + 7.22	7.8	5600	350		1 3/4	3/8	3/4	5	1 3/8
111 1/2	4.838		5600	400		1 3/4	3/8	3/4	5	1 3/4
*131	3.07	6.4	3750	550	103	1 3/8	3/8	5/8	3 1/2	1 1/4
132†	6.125	14.2	10000	300	122	2	1/2	1	6 3/8	1 3/4
142†	4.00	2.8	1650	550		1	1/4	1/16	2 1/2	1 1/16
*188	2.61	4.2	2450	600	75, 78, 88	1 1/8	1/4	1/2	2 7/8	7/8

Bold face type indicates stock sizes. *Popular sizes for transmitting power—used also for conveyors. †Popular sizes for elevators and conveyors—used also for transmitting power. ‡Working strengths in table are increased or decreased for speeds other than 150 feet per minute. For other speeds, see page 178, and use but half of values thus obtained for service in gritty materials. ††Economical speeds are half of maximum speeds. **Alternate long and short pitches, with long pitch in steel side bars. ***Milled pin in steel side bars. §Chains will operate on wheels made for detachable link chains, see list pages 183 and 184. For proper direction to run chain, see page 182.

Square Shank Pin Malleable Iron and Steel Chains and Attachments

Standard Stock Attachments



K-1—(Malleable)



K-1—(Steel)



K-2—(Malleable)



K-2—(Steel)

Price List Per Foot Assembled

Attachment Symbols	Spacing per Links	Chain Numbers												
		102	102B	102½	102½ Sp.	102½A Sp.	110	111	111 Sp.	111½	131	132	142	188
Plain Chain.		\$.70	\$.76	\$1.00	\$1.50	\$2.00	\$.70	\$1.00	\$.85	\$1.20	\$.80	\$1.40	\$.45	\$.55
DD (Malleable)	2d													
	4th													
	6th	1.31	1.37								1.69			
E-½ & Spec. E-½ (Steel)	2d	1.01	1.07								1.24			
	4th	.91	.97								1.10			
E (Malleable)	2d												.57	
	4th												.51	
	6th												.49	
E Side Bar (Steel)	2d	1.34	1.40								1.57			
	4th	1.02	1.08								1.20			
	6th	.92	.98								1.06			
E-1 (Mall.)	2d												.57	
	4th												.51	
	6th												.49	
E-1 Side Bar (Steel)	2d	1.34	1.40	1.67	2.17	2.67	1.35	1.70			1.57	2.10		
	4th	1.02	1.08	1.34	1.84	2.34	1.03	1.35			1.20	1.75		
	6th	.92	.98	1.23	1.73	2.23	.92	1.24			1.06	1.63		
Spec. E-1 (Mall.)	2d						.78							
	4th						.74							
	6th						.73							
E-1½ (Steel)	2d	1.31	1.37				1.10	1.51						
	4th	1.01	1.07				.90	1.25						
	6th	.91	.97				.84	1.17						
Spec. E-1½ (Steel)	2d	1.31	1.37	1.60	2.10		1.10	1.51			1.69			
	4th	1.01	1.07	1.30	1.80		.90	1.25			1.24			
	6th	.91	.97	1.20	1.70		.84	1.17			1.10			
F-2 (Mall.)	2d			1.47			1.25	1.05			1.25		.57	.70
	4th			1.25			1.15	.98			1.10		.51	.63
	6th			1.17			1.10	.95			1.00		.49	.60
F-2½ (Mall.)	2d	1.59	1.65											
	4th	1.15	1.21											
	6th	1.00	1.06											
F-28 (Mall.)	2d										1.49			.69
	4th										1.15			.62
	6th										1.03			.60
G-1 (Mall.)	2d						.95	1.25	1.05		1.10			
	4th						.83	1.15	.98		.95			
	6th						.78	1.10	.95		.90			
G-6 (Mall.)	2d						.95	1.25	1.05		1.10			.75
	4th						.83	1.15	.98		.95			.65
	6th						.78	1.10	.95		.90			.63
G-19 (Mall.)	2d										1.00			.69
	4th										.90			.62
	6th										.87			.60
(Mall.)	2d	.85	.91								.97			.75
(Mall. & St.)	3d	.90	.96								1.05			.80
K-1 (Mall.)	4th	.78	.84								.89			.65
(Mall. & St.)	5th	.82	.88								.95			.70
(Mall.)	6th	.75	.81								.86			.62
(Mall. & St.)	All	1.30	1.36								1.50			1.25
(Mall.)	2d	.85	.91	1.20	1.85	2.53	.82	1.20	1.00	1.40	.97	1.75	.60	.80
(Mall. & St.)	3d	.90	.96	1.20	2.35	2.34	.95	1.20		1.40	1.05	1.75	.60	.80
K-2 (Mall.)	4th	.78	.84	1.10	1.68	2.27	.78	1.10	.93	1.30	.89	1.65	.53	.65
(Mall. & St.)	5th	.82	.88	1.10	2.01	2.20	.83	1.12		1.32	.95	1.65	.55	.70
(Mall.)	6th	.75	.81	1.08	1.62	2.18	.75	1.08	.90	1.28	.86	1.55	.50	.62
(Mall. & St.)	All	1.30	1.36	1.50	4.10		1.10	1.60		1.80		2.35	.90	1.25
M-3	2d										1.94	1.96		.88
	4th										1.37	1.68		.72
	6th										1.18	1.59		.66
S-6 (Mall.) (for- merly F-17)	2d										1.29	1.76		
	4th										1.05	1.59		
	6th										.97	1.53		
S-7 (Mall.) (for- merly F-18)	2d										1.49			
	4th										1.15			
	6th										1.03			



F-2
(Malleable)
Made from F-28 for
No. 188 Chain



F-2½
(Malleable)
Riveted to steel
side bars



G-6 or G-1
(Malleable)
With taper for standard
buckets. G-6 with 4
holes; G-1 with 2 holes



Coupling Link
(Malleable)

Bold face type indicates stock sizes.
Prices cover chains with riveted or cotttered coupling pins. Prices for coupling pins ¼-inch diameter and larger having lock nuts will be quoted upon application. For diameter of pins, see tabulated list, page 188.

Attachments for Square-Shank Pin Chains

Standard Attachments—Made to Order



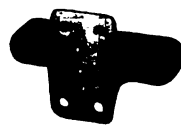
DD
(Malleable)



E
(Malleable)



E-1/2; Special E-1/2*
(Steel)



E-1; Special E-1*
(Malleable)



E-1 1/2; Special E-1 1/2*
(Steel)



E-Side Bar
(Steel)



E-1 Side Bar
(Steel)



F-28
(Malleable)



G-19
(Malleable)
Known as F on No. 188 Chain



K-2 Axle Plates
(Malleable)
With Cast Iron Rollers



M-3
(Malleable)



S-7 or S-6
(Malleable)
Long spur as shown S-7 formerly F-18
Shorter spur, S-6 formerly F-17



S
(Steel)

*Special prefixed to E-1/2, E-1 and E-1 1/2 indicates attachment tapered for ends of standard buckets.
†In pairs with rollers—one on each side of K-2 attachment.

Price List Price each for Detached Parts

Chain Numbers	102	102B	102 1/2	102 1/2 Sp.	102 1/2 A Sp.	110	111	111 Sp.	111 1/2	131	132	142	188
No. of links in 100-ft. Chain	304	304	296	298	298	200	251	200	250	391	196	300	462
Block Link, (malleable).....	\$.25	\$.25	\$.37	\$.57	\$.60	\$.40	\$.43	\$.43	\$.60	\$.20	\$.78	\$.14	\$.12
Plain Side Bar, Steel.....	.09	.09	.10	.12	.12	.11	.11	.16	.11	.06	.20	.06	.04
Pin Rivet, Steel.....	.03	.04	.07	.08	.27	.05	.08	.08	.08	.05	.14	.03	.03
Pin Cotted, Steel.....	.04	.05	.08	.09		.06	.09	.03	.09	.06	.16	.04	.04
†Coupling Link, (malleable).....	.30	.33	.43			.45	.53			.30	.05	.18	.15
DD att. (on block) (malleable).....													
E att. (on block) (malleable).....													
†E-1/2 att. steel riveted to side bar.....	.42	.42								.42		.22	
E att. side bar (steel).....	.55									.50			
†Spec. E-1/2 att. steel riveted on.....	.42	.42								.42			
E-1 att. (on block link) (malleable).....						.42	.42					.22	
†E-1 1/2 att. steel riveted to side bar.....	.42	.42				.42	.42						
E-1 side bar (steel).....	.55	.55	.60	.60	.60	.80	.70			.50	1.00		
Spec. E-1 att. (on block link).....						.48							
†Spec. E-1 1/2 att. riveted on.....	.42	.42	.42	.42		.42	.42			.50			
F-28 (Block link) (malleable).....										.55			.18
F-17 see S-6 (now called).....													
F-18 see S-7 (now called).....													
F-2 (Block link) (malleable).....			.66				.62	.62		.45		.20	.18
†F-2 1/2 M. I. riveted on pair.....	.58	.58											
G-1 (block link) (malleable).....						.62	.64	.64		.35			.20
G-6 (block link) (malleable).....						.62	.64	.64		.35		.22	.18
G-19 (block link) (malleable).....										.35			.15
K-1 Steel side bar.....	.24	.24					.26	.37		.20			.15
K-1 (block link) (malleable).....	.34	.34					.58	.58		.28			.17
K-2 steel side bar.....	.24	.24	.25		.28	.25	.26	.37	.26	.20	.55	.17	.15
K-2 (block link) (malleable).....	.34	.34	.50	.80	.95	.53	.58	.58	.75	.28	1.10	.25	.17
K-2 drop forged side bar.....				.90	.90								
M-3 steel side bar.....										.40			.12
M-3 side bar (malleable).....													
M-3 (block link) (malleable).....											1.35		
S-6 (block link) (malleable).....										.45	1.15		
S-7 (block link) (malleable).....										.55			

†Coupling link complete with two cotted pins.
†Price of plain side bars to be added to make complete attachment.



Cast-Iron Sprocket Wheels for Square Shank Pin Malleable Iron and Steel Chains

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application.

Always state which are the driving and which the driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated, both kinds are made.

Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	
Nos. 102, 102-B					No. 111					No. 132—Continued					
7	5	1 11/16	\$4.30*	B	18 1/2	12	3 7/16	\$10.00	B	20	10	3 15/16	\$12.80	B	
8	6	1 11/16	4.70*		20 1/4	13	3 7/16	12.00		22	11	3 15/16	14.00		
10 1/4	8	2 1/16	5.70*		21 1/2	14	3 7/16	13.20		23 3/4	12	3 15/16	16.50		
11 3/4	9	2 15/16	6.30*		23 1/4	15	3 7/16	14.30		29 1/2	15	3 15/16	21.80		
13	10	2 15/16	6.80*		25	16	3 7/16	15.40		31 1/2	16	3 15/16	23.60		
14 1/4	11	2 15/16	7.30		27 1/4	18	3 7/16	17.90		37	19	3 15/16	30.00		
15 1/2	12	2 15/16	7.80		30 1/2	20	3 7/16	20.35		41 1/4	21	3 15/16	34.00		
16 3/4	13	2 15/16	8.40		33 3/4	22	3 7/16	23.40		48 3/4	25	3 15/16	40.00		
18 1/4	14	2 15/16	9.00							71	36	3 15/16	70.00		
19 1/2	15	2 15/16	9.70		B	No. 111—Special					No. 142				
21	16	2 15/16	10.40	15 3/4		8	3 7/16	\$15.00	B	10 1/2	4	2 15/16	\$3.95	A	
23	18	2 15/16	11.70	19 1/2		10	3 7/16	19.00		13 1/4	5	2 15/16	4.50		
24 1/2	19	2 15/16	12.40	23 1/2		12	3 7/16	22.00		15 1/2	6	2 15/16	5.50		
26 3/4	21	2 15/16	13.75	30 3/4		16	3 7/16	28.00		18 1/4	7	2 15/16	7.30		
28 1/4	22	2 15/16	14.50	No. 111 1/2						20 1/2	8	2 15/16	8.00		
29 1/4	23	2 15/16	15.50	This chain works over Std. 111 Sprocket having from 13 to 20 teeth or 20- to 30 1/2-inch diameters.						23 1/4	9	2 15/16	9.00		
33	26	2 15/16	18.70	No. 131						28 1/4	11	2 15/16	11.80		
34 1/2	27	2 15/16	19.70	6		6	1 15/16	\$3.60*	B	31	12	2 15/16	13.20	A	
40 3/4	32	2 15/16	26.30	7		7	1 15/16	4.00*		36	14	2 15/16	16.00		
48 1/2	38	2 15/16	34.00	8	8	2 1/16	4.40*	No. 188							
59	47	2 15/16	45.50	9	9	2 1/16	4.80*	4 1/2		5	1 3/16	\$2.75*	B		
No. 102 1/2					10	10	2 1/16	5.25*		5 1/4	6	1 11/16			2.90*
8	6	1 15/16	\$5.00*	B	11	11	2 1/16	5.65*		6	7	1 15/16			3.10*
10 1/4	8	2 1/16	6.25*		12	12	2 1/16	6.05*		6 3/4	8	2 1/16			3.30*
12	9	2 15/16	6.60*		13	13	2 1/16	6.45		7 1/4	9	2 1/16			3.50*
13	10	2 15/16	7.20		14	14	2 1/16	6.85		8 1/2	10	2 1/16			3.75*
14 1/4	11	2 15/16	7.80*		15	15	2 1/16	7.25		9 1/2	11	2 1/16			4.00*
15 1/2	12	2 15/16	8.35*		16	16	2 1/16	7.65		10 1/2	12	2 1/16			4.30*
19 3/4	15	2 15/16	10.10		17	17	2 1/16	8.05		11	13	2 1/16			4.60*
20 3/8	16	2 15/16	10.75		18 3/4	18	2 1/16	8.45		12	14	2 1/16			4.90
22	17	2 15/16	11.40		19 3/4	19	2 1/16	8.90		13	15	2 1/16			5.20
23	18	2 15/16	12.30		20 3/4	20	2 1/16	9.40		14	16	2 1/16			5.55
23 3/4	19	2 15/16	13.20	B	21 3/4	21	2 1/16	9.90	14 1/2	17	2 1/16	5.90			
28 1/4	22	2 15/16	16.30		21 3/4	22	2 1/16	10.35	15 1/4	18	2 1/16	6.25			
29 1/2	23	2 15/16	18.00		22 3/4	23	2 1/16	10.80	16 1/2	19	2 1/16	6.60			
34	26	2 15/16	20.50		23 1/4	24	2 1/16	11.20	17 1/2	20	2 1/16	6.95			
40 1/2	31	2 15/16	25.00		24 3/4	25	2 1/16	11.70	18 1/2	21	2 1/16	7.30			
48 1/4	37	2 15/16	35.00		25 3/4	26	2 1/16	12.25	19 1/2	22	2 1/16	7.65			
59 3/4	46	2 15/16	52.00		26 3/4	27	2 1/16	12.75	20 1/2	23	2 1/16	8.00			
Nos. 102 1/2-A Special and 102 1/2 Special					27 3/4	28	2 1/16	13.30	20 3/4	24	2 1/16	8.35			
12	9	3 7/16	\$6.90*		B	28 3/4	29	2 1/16	13.85	21	25	2 1/16	8.70		
14 1/4	11	3 7/16	8.50*			29 1/2	30	2 1/16	14.40	22 1/2	26	2 1/16	9.05		
16	12	3 7/16	9.40*	30 1/2		31	2 1/16	15.20	23 1/2	28	2 1/16	9.75			
18 1/4	14	3 7/16	11.00	31 1/2		32	2 1/16	16.00	24 1/4	29	2 1/16	10.10			
19 1/2	15	3 7/16	12.00	32 1/2		33	2 1/16	16.80	25 1/2	30	2 1/16	10.45			
21	16	3 7/16	13.00	33 1/2		34	2 1/16	17.60	26 3/4	32	2 1/16	11.15			
24 3/4	19	3 7/16	16.20	35 1/2		36	2 1/16	19.25	27 3/4	33	2 1/16	11.55			
27 1/2	21	3 7/16	18.50	36 1/2		37	2 1/16	20.20	28 1/2	34	2 1/16	11.95			
33 1/4	26	3 7/16	24.00	37 1/2		38	2 1/16	21.20	29 1/4	35	2 1/16	12.35			
No. 110						39 1/4	40	2 1/16	23.10	30 3/4	36	2 1/16	12.75		
12	6	3 7/16	\$12.00*	B	40 1/2	41	2 1/16	24.00	31	37	2 1/16	13.20			
16	8	3 7/16	14.35*		41 1/2	42	2 1/16	24.80	32	38	2 1/16	13.65			
17 3/4	9	3 7/16	15.00		43 1/2	44	2 1/16	26.50	32 3/4	39	2 1/16	14.10			
19 1/2	10	3 7/16	15.50		44 1/2	45	2 1/16	27.35	33 3/4	40	2 1/16	14.60			
21 1/2	11	3 7/16	16.65		45 1/2	46	2 1/16	28.20	36	43	2 1/16	16.20			
23 1/2	12	3 7/16	17.85		48	49	2 1/16	30.75	37	44	2 1/16	16.75			
25 1/4	13	3 7/16	20.15		54	55	2 1/16	35.75	37 3/4	45	2 1/16	17.30			
31 1/2	16	3 7/16	24.75		No. 132					38 1/2	46	2 1/16	17.85		
35	18	3 7/16	30.50		16	8	3 15/16	\$9.75*	B	41 1/4	49	2 1/16	19.50		
71 1/4	37	3 7/16	86.00		18	9	3 15/16	10.80		42	50	2 1/16	20.00		
										48	57	2 1/16	24.25	B	
										50 1/4	60	2 1/16	26.00		
										54 1/2	65	2 1/16	30.00	B	

Extra charges for large bores, long hubs, split hubs, and set screws over keyway, see page 182.

*Plate center wheels; all others have arms.

Steel Bushed Combination Chains

This chain is especially adapted for elevating gritty materials and is designed so that the hardened steel bushing and pins can be readily renewed.

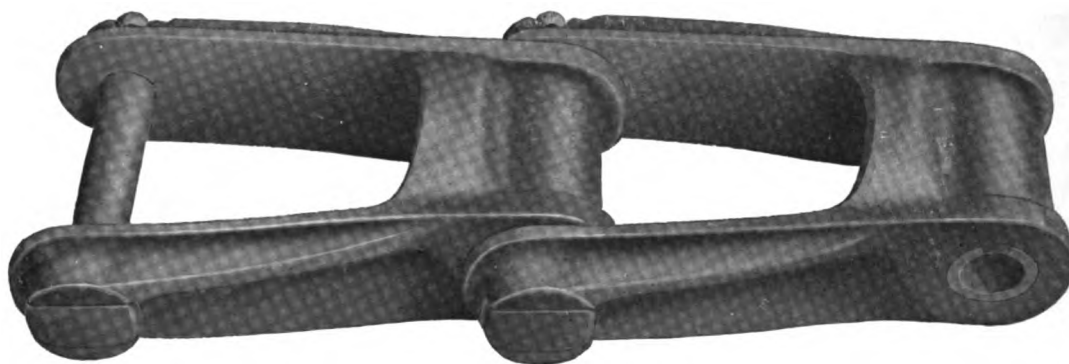


Fig. T-537



Fig. T-537A

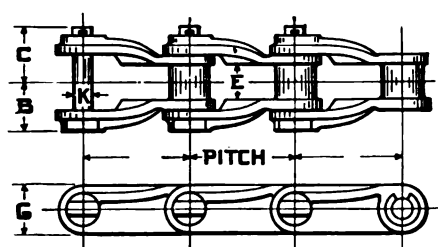


Fig. T-537B
Standard Pin



Fig. T-537C
Standard Sleeve
(Case Hardened)

General Dimensions



Chain Numbers	Approx. Pitch, Inches	Approx. Weight, per Ft.	Working Strength at 150 Ft. per Min. Lbs.†	Max. Speed Ft. per Min.¶	Dimensions in Inches				
					D	C	E	G	K
823	4	4.75	3000	500	1 13/16	1 13/16	1 3/8	1 3/8	1/2
825	4	9.00	5075	450	2	2 15/16	1 3/8	2	3/4
830	6		5075	450	1 7/8	2 3/8	1 1/2	1 7/8	3/4
835	4	9.00	4700	450	2 7/8	3 1/2	2 1/2	1 7/8	5/8
843	6	10.8	6200	400	2 3/4	3 3/8	1 7/8	2 1/4	3/4
844	6	10.8	7750	400	2 11/16	3 3/8	2 1/2	2 1/8	3/4
847	6	19.5	12750	350	3 5/8	4	3	2 11/16	1

For proper direction to run chain, see page 182.

¶For economy, speeds should not exceed half of maximum speeds.

†Working strengths in table should be increased or decreased for speeds other than 150 feet per minute (see table, page 178).

Steel Bushed Combination Chains Standard Stock Attachments



F-2



G-6



K-1



K-2
On Nos. 823 and 835



K-2
On Nos. 825, 830, 843,
844, 847

Price List per Foot

Sizes and Attachments	823	825	830	835	843	844	847	Sizes and Attachments	823	825	830	835	843	844	847
Plain chain.....	\$1.00	\$1.60	\$1.30	\$1.80	\$2.20	\$1.70	\$3.35	K-1.....		\$2.25					
A-4.....	1.15							K-2.....	\$1.25	2.30	\$1.80	\$2.20	\$2.55	\$2.00	\$4.50
A-38.....		2.05						K-4.....							
A-42-P.....	1.10	1.75						K-53.....		4.20					
A-42.....	1.40	2.15	1.65			2.00		M-3.....	1.90						
A-65.....	1.30							M-25.....			2.75				
DD.....		2.85						M-37.....		2.50					
E-20.....								Pins, each.....	.14	.25	.25	.25	.34	.34	.70
E-24.....					2.65			Bushings, each.....	.10	.15	.15	.17	.20	.20	.35
F-2.....	1.60	2.25	1.75			2.50		Average ultimate strength							
F-4.....	1.75							in. lbs.....	19600	44000	30000	30700	44200	44200	78600
F-16.....	1.85							Approx. links in 10 feet...	30	30	20	30	20	20	20
FF.....		2.25	2.20												
G-1.....	1.50	2.25													
G-5.....	1.95														
G-6.....	1.50	2.25	1.80												
G-17.....															

Cast-Iron Sprocket Wheels For Steel Bushed Combination Chain

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application. Always state which are the driving and which are driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated both kinds are made.

Price List

No. 823					No. 825—continued					No. 843									
Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price, Inches	List Price	Kind	Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price, Inches	List Price	Kind	Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price, Inches	List Price	Kind					
10 $\frac{1}{4}$	8	2 $\frac{1}{16}$	\$5.90*	B	14 $\frac{1}{4}$	11	3 $\frac{1}{16}$	\$9.80	B	15 $\frac{3}{4}$	8	3 $\frac{15}{16}$	\$13.60	B					
11 $\frac{3}{4}$	9	2 $\frac{1}{16}$	6.50	B	15 $\frac{3}{4}$	12	3 $\frac{1}{16}$	10.50*	B	25 $\frac{1}{4}$	13	3 $\frac{15}{16}$	18.70	B					
13	10	2 $\frac{11}{16}$	7.00*	B	18	14	3 $\frac{15}{16}$	12.20	B	No. 844									
14 $\frac{1}{4}$	11	2 $\frac{11}{16}$	7.50	B	20 $\frac{3}{4}$	16	3 $\frac{15}{16}$	14.00	B										
15 $\frac{1}{2}$	12	2 $\frac{15}{16}$	8.00	B	23 $\frac{1}{4}$	18	3 $\frac{15}{16}$	16.00	B										
18 $\frac{1}{4}$	14	2 $\frac{15}{16}$	9.00	B	29 $\frac{1}{2}$	23	3 $\frac{15}{16}$	21.30	B										
19 $\frac{1}{4}$	15	2 $\frac{15}{16}$	9.70	B	31	24	3 $\frac{15}{16}$	22.50	B	No. 847									
20 $\frac{1}{2}$	16	2 $\frac{15}{16}$	10.50	B	35 $\frac{3}{4}$	28	3 $\frac{15}{16}$	28.20	B										
21 $\frac{3}{4}$	17	2 $\frac{15}{16}$	11.30	B	47 $\frac{3}{4}$	37	3 $\frac{15}{16}$	50.00	B										
24 $\frac{1}{2}$	19	2 $\frac{15}{16}$	12.90	B	No. 830														
31	24	2 $\frac{15}{16}$	17.50	B															
36 $\frac{3}{4}$	28	2 $\frac{15}{16}$	22.00	B															
48 $\frac{1}{2}$	38	2 $\frac{15}{16}$	34.00	B	No. 835					19 $\frac{1}{4}$	10	3 $\frac{15}{16}$	\$16.80	B					
No. 825										23 $\frac{1}{4}$	12	3 $\frac{15}{16}$	20.00	B	23 $\frac{1}{2}$	12	4 $\frac{15}{16}$	\$31.50	B
										31	16	3 $\frac{15}{16}$	22.50	B	25 $\frac{1}{2}$	13	3 $\frac{15}{16}$	22.00	B
															29 $\frac{1}{4}$	15	3 $\frac{15}{16}$	26.00	B
10 $\frac{3}{4}$	8	2 $\frac{15}{16}$	\$7.80	B	20 $\frac{1}{2}$	23	3 $\frac{15}{16}$	\$25.60	B	36 $\frac{3}{4}$	19	3 $\frac{15}{16}$	35.00	B					
12	9	2 $\frac{15}{16}$	8.40	B	No. 835					No. 847									
13	10	2 $\frac{15}{16}$	9.10	B															

*Plate center wheels. Extra charges for large bores, long hubs, split hubs, and set screws over keyway, see page 182.

Malleable Roller Chains



Fig. T-538

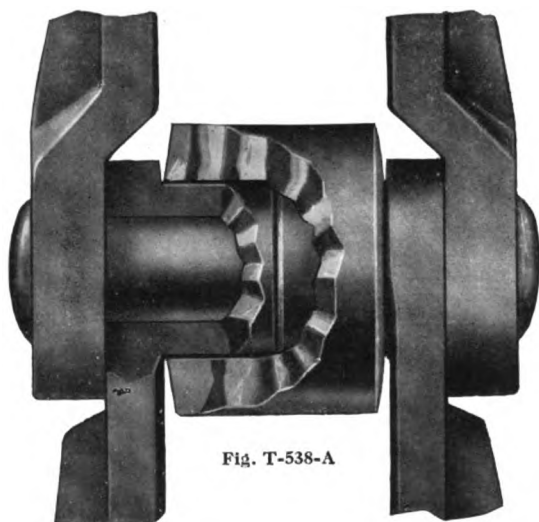


Fig. T-538-A

Roller chains are made with riveted pins, unless otherwise specified. Chains with coupling pins throughout are made to order. Coupling pins with all riveted chains to join the ends are furnished, so that they can be readily coupled. For proper direction to run chain, see page 182. For list prices, see pages 195 and 196.



Fig. T-538-B
Plain Rivet Pin



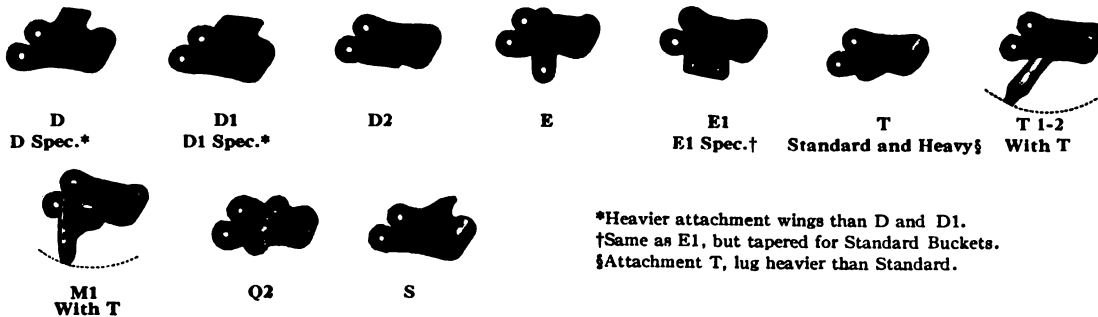
Fig. T-538-C
Coupling Pin with Cotter (Washer Extra)

Chain Numbers	Pitch, Inches	Approx. Weight per Foot	†Working Strength at 150 Feet per Min.	**Max. Speeds Over-all Feet per Min.	Dimensions in Inches		
					Over-all Width	Diameter, Roller	Diameter, Pins
0	2.02	1.39	670	700	1 11/16	1 13/16	5/8
1*	2.98	5.22	2575	600	3	1 7/16	5/8
1 1/2	2.08	6.00	2575	600	3	1 13/16 Steel	5/8
2*†	3.70	4.39	1850	600	3	1 13/16	5/8
2 Spt†	3.70	4.97	1850	600	3	1 13/16	5/8
3†	4.04	5.54	3000	500	3 1/2	1 3/4	11/16
3 1/2†	4.04	6.40	3000	500	3 1/2	2	11/16
5	5.08	8.52	4425	500	3 3/4	2 1/2	7/8
5-C†	5.08	8.82	4425	500	3 3/4	2 1/2	7/8
9†	2.98	1.51	950	700	1 7/8	1	5/8
9 Spt	2.98	2.24	950	700	2	1 13/16	5/8
9 1/2	2.98	1.92	950	700	1 7/8	1 1/2	5/8
9 1/2 Spt†	2.98	2.65	950	700	2	1 1/2	5/8
12	3.53	3.47	2050	600	2 3/4	1 9/16	1 1/2
14†	4.01	3.03	1600	600	2 1/2	1 7/16	1 1/2
14 1/2†	4.01	3.30	1600	600	2 1/2	2	1 1/2
17*†	2.58	2.35	1000	700	2 1/2	1 5/8	1 1/2
18†	3.03	2.76	1475	700	2 1/2	1 13/16	1 1/2
20*	1.52	.84	500	700	1 3/8	1 1/8	1 1/2
40 1/2	4.00	2.93	900	600	2	2 1/2	5/8
52*	1.50	1.20	600	600	1 7/8	1 1/8	5/8
55	1.62	0.97	600	700	1 7/8	1 1/8	5/8
62	1.67	2.07	900	700	2 1/2	1 1/8	11/16
77*†	2.29	1.57	750	700	2	1 3/8	5/8
124*	4.05	7.23	3300	500	3 5/8	2 1/4	11/16
126†	6.01	5.70	3100	400	3 3/8	2 1/4	11/16
126-C†	6.01	7.70	3100	400	3 3/8	3	11/16
137	6.96	9.65	5300	300	4 3/4	2 3/4	7/8
156†	6.01	9.00	5000	300	3 3/4	2 1/4	7/8
156-C†	6.01	9.20	5000	300	3 3/4	3	7/8

Bold face type indicates stock sizes. *Sizes recommended for transmitting power, used also for conveyors. †Sizes recommended for elevators and conveyors, used also for Drives. ‡Working strengths in table are increased or decreased for speeds other than 150 feet per minute. (Table, page 178). Use half of values thus obtained for service in gritty materials. **Economical speeds are half of maximum speeds.

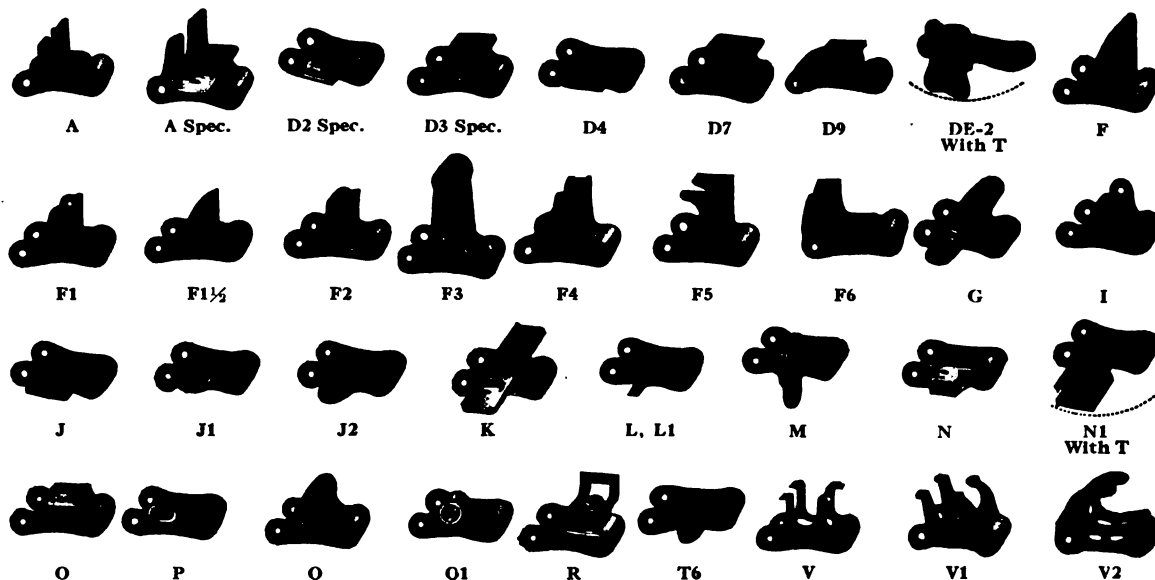
Malleable Roller Chains

Standard Stock Attachments



*Heavier attachment wings than D and D1.
†Same as E1, but tapered for Standard Buckets.
‡Attachment T, lug heavier than Standard.

Standard Attachments—Made to Order



Price List Per Foot

Chain No.		Chain No.		Chain No.		Chain No.	
O—Plain.....	\$.70	2—Special		9—Plain		14—Plain.....	\$1.03
D Both Sides.....	.95	T & T-1, T-2 One		Q Both Sides.....	\$.90	D-1 Both Sides...	1.37
1—Plain.....	1.65	Side, 1 1/4-inch		T One Side.....	.85	D-2 One Side....	1.22
D Both Sides.....	2.20	Pipe.....	\$2.90	T & M-1 One Side	1.03	Q-1 One Side....	1.32
1 1/2 D Special—Both		3—Plain.....		D Both Sides.....	.80	Q-2 Both Sides...	1.62
Sides.....	3.60	D-1 Both Sides...	1.84	D-2 One Side....	.95	T One Side.....	1.20
2—Plain.....	1.40	D-2 Special One		Q Both Sides.....	1.05	T & M-1 Special	
D-1 Special Both		Side.....	2.30	T One Side.....	1.00	One Side.....	1.74
Sides.....	1.90	G Both Sides...	2.55	T & M-1 One Side	1.78	T & T-1, T-2 One	
D-2 One Side....	1.62	3 1/2—Plain.....	1.94	9 Special—Plain...	0.84	Side, 1 1/4-inch	
T, One Side.....	1.57	D-1 Both Sides...	2.44	D-1 Both Sides...	1.12	Pipe.....	2.26
T & M-1 One Side	2.40	D-2 One Side....	2.27	D-2 One Side....	1.03	14 1/2—Plain.....	1.21
T & T-1, T-2 One		D-2 Special One		T One Side.....	1.05	D-1 Both Sides..	1.55
Side, 1 1/4-inch		Side.....	2.40	T & M-1 One Side	1.83	D-2 One Side....	1.40
Pipe.....	2.72	G Both Sides...	2.65	9 1/2 Spec.—Plain...	.91	Q-1 One Side....	1.50
2 Special—Plain...	1.58	5—Plain.....	2.50	D-1 Both Sides..	1.19	Q-2 Both Sides...	1.80
D-1 Special Both		S Both Sides...	3.80	D-2 One Side....	1.10	T One Side.....	1.38
Sides.....	2.08	5-C—Plain.....	2.70	T One Side.....	1.12	T & M-1 Special	
D-2 One Side....	1.80	S Both Sides...	4.00	T & M-1 One		One Side.....	1.92
T One Side.....	1.75	9—Plain.....	.65	Side.....	1.90	T & T-1, T-2 One	
T & M-1 One		D Both Sides....	.84	12—Plain.....	1.20	Side, 1 1/4-inch	
Side.....	2.58	D-2 One Side....	.80	D-2 One Side....	1.42	Pipe.....	2.44



Malleable Roller Chains and Attachments

Price List Per Foot

Chain No.	Chain No.	Chain No.	Chain No.
17—Plain..... \$.90	40½—Plain..... \$.80	124—Plain..... \$2.10	126-C—Plain
A Both Sides..... 1.40	D-2 One Side..... 1.05	126—Plain..... 1.60	T Heavy One Side \$2.10
D Both Sides..... 1.23	52—Plain..... 1.00	D-1 Both Sides... 2.10	T Heavy & M-1
D-1 Spectat Both Sides..... 1.52	D Both Sides..... 1.10	D-2 One Side..... 1.80	Special One Side. 2.95
E One Side..... 1.05	55—Plain..... 1.00	E-1 One Side..... 2.05	137—Plain..... 2.65
T One Side..... 1.10	D Both Sides..... 1.03	T Heavy One Side 1.90	D-7 Both Sides... 4.25
T & M-1 One Side 2.20	62—Plain 1.55	T Heavy & M-1 Special One Side 2.75	156—Plain..... 2.45
18—Plain..... .95	C Both Sides..... 1.75	126-C—Plain 1.80	D-1 Both Sides... 3.65
D Both Sides..... 1.34	77—Plain..... 1.00	D-1 Both Sides... 2.30	D-2 One Side..... 2.90
T One Side..... 1.20	D Both Sides..... .95	D-2 One Side 2.00	156-C—Plain 2.75
20—Plain..... .65	T One Side..... 1.05	E-1 One Side..... 2.25	D-1 Both Sides . 3.95
	T & M-1 One Side 1.05		D-2 One Side.... 3.20

Bold face type indicates stock sizes.

Cast-Iron Sprocket Wheels for Malleable Roller Chains

Sprocket Wheels Work in Either Direction

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application. Always state which are driving and which driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated both kinds are made.

Price List

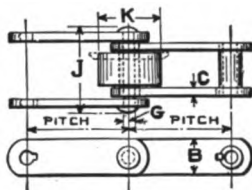
Diam- eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam- eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam- eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam- eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind
No. 0					No. 1—Continued					No. 2 Special—Continued					No. 5-C—Continued				
3	4	1 1/16	\$1.20*	B	29 3/4	31	3 7/16	\$19.00	B	31	26	3 7/16	\$20.00	B	16 1/2	10	3 7/16	15.00*	B
3 1/2	5	1 1/8	1.40*	B	32 1/2	34	3 7/16	21.00	B	35 3/4	30	3 7/16	24.70	B	19 3/4	12	3 7/16	18.50	B
4 1/4	6	1 1/4	1.50*	A	36 1/4	38	3 7/16	23.00	B	37	31	3 7/16	28.00	B	24 1/2	15	4 1/16	21.50	B
4 3/4	7	1 1/2	1.90*	A	42	44	3 7/16	28.00	B	44	37	3 7/16	35.00	B	27 3/4	17	4 1/16	27.00	B
5 1/2	8	1 5/8	2.00*	A	48	50	3 7/16	37.50	B	59 1/2	50	3 7/16	55.00	B	31	19	4 1/16	28.00	B
6	9	2 1/16	2.10*	A	No. 1 1/2					No. 3					32 1/2	20	4 1/16	30.00	B
6 1/2	10	2 1/8	2.25*	A	5.96	6	1 1/8	\$3.50	B	8 1/4	6	2 1/8	\$5.00*	B	34 1/4	21	4 1/16	32.00	B
7	11	2 1/4	2.60*	A	9.64	10	2 1/8	7.00	B	10 1/2	8	2 1/8	9.60*	B	36	22	4 1/16	37.00	B
8	12	2 3/8	2.80*	A	10.57	11	3 7/16	7.25	B	12	9	3 7/16	12.00	B	40 3/4	25	4 1/16	43.00	B
8 1/2	13	2 3/4	3.00*	A	11.51	12	3 7/16	7.50	B	13 1/4	10	3 7/16	12.50	B	44	27	4 1/16	48.00	B
9 1/4	14	2 7/8	3.20*	A	12.45	13	3 7/16	7.75	B	14 1/2	11	3 7/16	13.80	B	48 3/4	30	4 1/16	56.00	B
10 3/4	15	2 7/8	3.30	B	18.10	19	3 7/16	12.80	B	15 1/2	12	3 7/16	14.50	B	No. 9				
11 1/2	17	2 7/8	3.50	B	23.78	25	3 7/16	16.50	B	17 1/4	13	3 7/16	15.00	B	5 1/4	5	1 7/16	\$2.50*	B
12 1/2	18	2 7/8	4.00	B	No. 2					18 1/2	14	3 7/16	15.50	B	6	6	1 7/8	2.80*	B
13	20	2 7/8	4.50	B	6 1/2	5	1 1/8	\$3.50*	B	21 1/4	16	3 7/16	16.50	B	7 1/4	7	1 7/8	3.20*	B
13 1/4	21	2 7/8	4.75	B	8 1/2	7	1 1/8	4.00*	B	22 1/2	17	3 7/16	17.20	B	8 1/4	8	2 1/8	3.60*	B
14	22	2 7/8	4.75	B	9 3/4	8	2 1/8	5.40*	B	23 3/4	18	3 7/16	18.60	B	8 3/4	9	2 1/8	3.90*	B
15	23	2 7/8	5.00	B	11	9	2 7/8	6.10*	B	26 1/4	20	3 7/16	21.00	B	10 1/2	10	2 7/8	4.30	B
15 1/2	24	2 7/8	5.50	B	12 1/2	10	2 7/8	7.70*	B	29 3/4	23	3 7/16	22.00	B	11 1/2	12	2 7/8	4.80	B
16 1/4	25	2 7/8	5.75	B	13 1/2	11	3 7/16	9.60*	B	31 1/4	24	3 7/16	23.50	B	12 1/2	13	2 7/8	6.20	B
16 3/4	28	2 7/8	6.00	B	14 1/2	12	3 7/16	10.20*	B	36 1/2	28	3 7/16	24.50	B	14 1/2	15	2 7/8	7.00	B
20 1/4	31	2 7/8	6.25	B	15 1/2	13	3 7/16	10.50*	B	38 1/2	30	3 7/16	27.50	B	16 1/2	17	2 7/8	7.50	B
22	34	2 7/8	7.25	B	16 1/2	14	3 7/16	10.70*	B	40	31	3 7/16	29.50	B	18 1/4	19	2 7/8	8.00	B
22 1/2	35	2 7/8	7.90	B	18 1/4	15	3 7/16	13.10*	B	42 3/4	33	3 7/16	31.50	B	20	21	2 7/8	9.00	B
23 1/4	36	2 7/8	8.50	B	20	17	3 7/16	14.50	B	44 1/4	35	3 7/16	33.50	B	23	24	2 7/8	9.50	B
24 1/2	38	2 7/8	8.75	B	22 3/4	19	3 7/16	15.00	B	46 3/4	36	3 7/16	36.50	B	24 1/2	25	2 7/8	9.90	B
27 1/4	42	2 7/8	9.00	B	24	20	3 7/16	15.50	B	48	37	3 7/16	39.00	B	25 3/4	27	2 7/8	10.50	B
28 1/2	44	2 7/8	9.25	B	25	21	3 7/16	16.10	B	61 1/4	48	3 7/16	60.00	B	30	31	2 7/8	12.50	B
30	46	2 7/8	9.75	B	28 1/2	24	3 7/16	16.60	B	72 3/4	56	3 7/16	78.50	B	35	37	2 7/8	14.50	B
31 3/4	49	2 7/8	13.00	B	29 3/4	25	3 7/16	17.20	B	No. 3 1/2 on Application.					40 1/2	42	2 7/8	17.00	B
33 1/4	51	2 7/8	15.00	B	31	26	3 7/16	17.50	B	No. 5					48 1/2	51	2 7/8	25.00	B
48	74	2 7/8	25.00	B	35 3/4	30	3 7/16	21.50	B	12	7	2 1/8	\$12.00*	B	60	63	2 7/8	57.00	B
No. 1					44	37	3 7/16	32.00	B	13 1/2	8	2 1/8	13.00*	B	No. 9 Special				
6	6	1 1/8	\$3.50*	B	48	40	3 7/16	35.00	B	15	9	2 1/8	14.00*	B	5	5	1 7/8	\$1.80*	B
7 3/4	8	2 1/8	4.25*	B	60 3/4	51	3 7/16	45.00	B	16 1/2	10	2 1/8	15.00*	B	6	6	1 7/8	2.30*	B
8 3/4	9	2 1/8	4.75*	B	No. 2 Special					20	12	3 7/16	18.50	B	6 3/4	7	1 7/8	3.20*	B
9 1/4	10	2 1/8	7.00*	B	6 1/2	5	1 1/8	\$4.00*	B	24 1/2	15	4 7/16	21.50	B	8	8	2 1/8	3.70*	B
10 1/2	11	3 7/16	7.25*	B	8 1/2	7	1 1/8	4.50*	B	26 1/4	16	4 7/16	23.00	B	8 3/4	9	2 1/8	4.30*	B
11 1/2	12	3 7/16	7.50*	B	9 3/4	8	2 1/8	5.00*	B	27 1/2	17	4 7/16	27.00	B	9 3/4	10	2 1/8	4.50*	B
12 1/2	13	3 7/16	7.75*	B	11	9	2 7/8	5.70*	B	31 1/4	19	4 7/16	28.00	B	10 1/2	11	2 7/8	5.00*	B
13 1/2	14	3 7/16	8.00*	B	12	10	2 7/8	6.60*	B	32 3/4	20	4 7/16	30.00	B	11 3/4	12	2 7/8	5.60*	B
14 1/4	15	3 7/16	10.50*	B	13 1/2	11	3 7/16	7.70*	B	34	21	4 7/16	32.00	B	12 1/2	13	2 7/8	6.50*	B
15 1/4	16	3 7/16	12.00*	B	14 1/2	12	3 7/16	8.80*	B	36	22	4 7/16	37.00	B	14 1/2	15	2 7/8	7.00	B
16 1/4	17	3 7/16	12.25*	B	15 1/2	13	3 7/16	9.10	B	37 3/4	23	4 7/16	41.00	B	16 1/2	17	2 7/8	7.50	B
17 1/2	18	3 7/16	12.60	B	16 3/4	14	3 7/16	9.40	B	49 1/4	30	4 7/16	56.00	B	18 1/4	19	2 7/8	8.00	B
18 1/4	19	3 7/16	12.80	B	18	15	3 7/16	11.20	B	60	38	4 7/16	72.00	B	19 1/4	20	2 7/8	8.50	B
19 3/4	20	3 7/16	13.80	B	20 1/2	17	3 7/16	12.00	B	No. 5-C					20 1/4	21	2 7/8	9.50	B
20	21	3 7/16	14.50	B	24	20	3 7/16	13.00	B	11 3/4	7	2 1/8	\$12.00*	B	24	25	2 7/8	11.00	B
23	24	3 7/16	15.80	B	27 1/2	23	3 7/16	16.50	B	15	9	2 1/8	14.00*	B	28 3/4	30	2 7/8	12.50	B
25 3/4	25	3 7/16	16.50	B	28 3/4	24	3 7/16	17.00	B	No. 5-C					40 1/2	42	2 7/8	17.00	B
28	29	3 7/16	18.25	B	29 3/4	25	3 7/16	17.50	B										



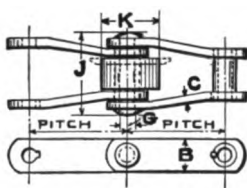
Cast-Iron Sprocket Wheels for Malleable Roller Chains

Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind
No. 9½, 1½-Inch Roller					No. 17—Continued					No. 52—Continued					No. 124				
6	6	1 1/16	\$2.30*	B	28 1/2	34	2 1/16	\$18.00		10	21	1 1/16	\$3.10	B	9 1/4	6	2 1/16	\$10.00*	A
7	7	1 1/16	3.20*	B	30	36	2 1/16	20.00		10 1/2	22	1 1/16	3.40	B	9 1/2	7	2 1/16	10.50*	B
8	8	2 3/16	3.75*	B	32 1/4	39	2 1/16	21.00	B	11 3/4	24	1 1/16	3.55		12	9	2 1/16	13.50*	
8 3/4	9	2 1/16	4.30*		35 1/2	43	2 1/16	22.00		12	25	1 1/16	3.70		13 1/4	10	3 1/16	15.00*	
9 3/4	10	2 1/16	4.50*		36 1/2	44	2 1/16	23.00	A	14	29	1 1/16	4.00		14 1/2	11	3 1/16	16.00*	
10 3/4	11	2 1/16	5.00*		39 3/4	48	2 1/16	26.00	B	16 1/4	34	1 1/16	4.50	B	15 3/4	12	3 1/16	17.50	
11 3/4	12	2 1/16	5.60*		44 1/2	54	2 1/16	33.00	B	17 3/4	37	1 1/16	4.70	B	17	13	3 1/16	18.00	A
12 1/2	13	2 1/16	6.50		48	58	2 1/16	39.00	B	20 1/4	42	1 1/16	5.30		18 1/2	14	3 1/16	18.50	
14 1/4	15	2 1/16	7.00		50 1/2	72	2 1/16	45.00	B	22	46	1 1/16	5.90	B	19 1/2	15	3 1/16	19.00	
15 1/4	16	2 1/16	7.25	B	No. 18					24	50	1 1/16	6.20	B	21	16	3 1/16	19.50	
16 1/4	17	2 1/16	7.50		6	6	1 1/16	\$2.40*		25	52	1 1/16	6.60	B	23 1/2	18	3 1/16	20.00	
18 1/4	19	2 1/16	8.50		7	7	2 3/16	3.05*	B	25 1/2	53	1 1/16	6.80	A	25	19	3 1/16	21.50	
19 1/4	20	2 1/16	9.00	B	8	8	2 1/16	4.00*		30 3/4	64	1 1/16	8.80		26	20	3 1/16	22.50	
20 1/4	21	2 1/16	9.50		9	9	2 1/16	5.20*		32 1/4	67	1 1/16	10.00	B	27 1/2	21	3 1/16	23.50	
22	23	2 1/16	10.50		10	10	2 1/16	6.00*		40 1/2	84	1 1/16	16.00	B	31 1/4	24	3 1/16	26.50	
24 1/4	25	2 1/16	11.00	B	10 1/2	11	2 1/16	7.10*		No. 55					34	26	3 1/16	30.00	
29 3/4	31	2 1/16	12.50		12	12	2 1/16	7.50*		3 3/4	7	1 1/16	\$1.75*	B	36 1/2	28	3 1/16	32.50	
40 3/4	42	2 1/16	17.00	A	12 1/2	13	2 1/16	8.00		4 1/4	8	1 1/16	1.85*		40 3/4	31	3 1/16	36.00	
No. 12					13 1/2	14	2 1/16	8.90		5 1/4	10	1 1/16	2.00*	A	42 3/4	33	3 1/16	37.50	B
7	6	1 1/16	\$8.50*	B	14 1/4	15	2 1/16	9.40		6 1/4	12	1 1/16	2.30*	A	45 1/2	35	3 1/16	39.00	B
9 1/4	8	2 1/16	9.50*		16	16	2 1/16	10.20		8	15	1 1/16	2.60*	A	48 3/4	37	3 1/16	43.00	
11 1/2	10	2 1/16	10.00*		17 3/4	17	2 1/16	11.00		8 1/2	17	1 1/16	2.90*	B	60	46	3 1/16	52.00	B
12 1/2	11	2 1/16	10.50*		18 1/2	18	2 1/16	11.70		10	19	1 1/16	3.00		72 1/4	56	3 1/16	66.00	A
16 1/4	14	3 1/16	11.00		19 1/2	19	2 1/16	12.60		12	23	1 1/16	3.50		78	60	3 1/16	80.00	
20 1/2	18	3 1/16	11.50		20 1/2	20	2 1/16	13.60		15	29	1 1/16	4.10		No. 126, 2¼-Inch Roller				
23 3/4	21	3 1/16	13.00		21 1/2	21	2 1/16	14.70		17 1/2	34	1 1/16	4.90		10 1/4	5	2 1/16	\$5.50*	B
31 3/4	28	3 1/16	20.00		24 1/2	25	2 1/16	15.90		18 1/4	35	1 1/16	5.00	A	12	6	3 1/16	7.00*	
36 1/4	32	3 1/16	22.00	A	25 1/4	26	2 1/16	17.00		20 1/2	39	1 1/16	5.50	A	14	7	3 1/16	8.50*	
No. 14					27 1/4	28	2 1/16	17.90		21 1/2	42	1 1/16	6.00	B	17 3/4	9	3 1/16	11.80*	
6 3/4	5	1 1/16	\$4.50*		31	32	2 1/16	18.90		No. 62					23 3/4	12	3 1/16	19.00	
9 1/4	7	2 3/16	6.00*		34	35	2 1/16	20.00	B	3 1/4	6	1 1/16	\$1.80*		25 1/2	13	3 1/16	20.50	
10 1/2	8	2 1/16	6.50*		36 1/4	37	2 1/16	23.00	B	3 3/8	7	1 1/16	1.90*	B	27 1/4	14	3 1/16	22.50	
11 1/2	9	2 1/16	7.00*		36 3/4	38	2 1/16	25.00	B	4 1/4	8	1 1/16	2.00*	B	29 1/4	15	3 1/16	25.00	
14 1/2	11	2 1/16	7.50*		40 3/4	42	2 1/16	26.00	B	4 3/8	9	1 1/16	2.10*	B	35	18	3 1/16	28.00	
15 1/2	12	2 1/16	8.00		44 3/4	46	2 1/16	27.00	B	5 1/4	10	2 1/16	2.20*	B	37	19	3 1/16	30.00	
18	14	2 1/16	10.00	B	48 1/2	50	2 1/16	28.00	B	6	11	2 1/16	2.30*	B	42 3/4	22	3 1/16	37.50	B
19 1/2	15	2 1/16	12.00		50 1/4	61	2 1/16	38.00	B	6 1/4	12	2 1/16	2.50*	B	48 1/2	25	3 1/16	42.00	
20 3/4	16	2 1/16	13.00	B	No. 20					8	15	2 1/16	3.00*	A	No. 126-C, 3-Inch Roller				
23 1/4	18	2 1/16	13.75	B	2	4	1 1/16	\$1.00*	B	8 1/2	16	2 1/16	3.40*	A	12 1/4	6	3 1/16	\$7.00*	B
24 1/2	19	2 1/16	14.00		2 3/4	6	1 1/16	1.30*	B	9	17	2 1/16	3.75*	B	14	7	3 1/16	8.50*	
29 1/4	23	2 1/16	19.00		3 1/2	7	1 1/16	1.70*		10 1/4	19	2 1/16	4.00	B	16	8	3 1/16	9.10*	
34 3/4	27	2 1/16	23.00		4 1/2	9	2 3/16	2.10*		12	22	2 1/16	4.25		17 3/4	9	3 1/16	11.80*	
40	31	2 1/16	25.00		5 1/4	11	2 1/16	2.40*		12 1/2	23	2 1/16	4.50		19 3/4	10	3 1/16	14.50	
47 1/2	37	2 1/16	36.00		5 3/4	12	2 1/16	3.20*	B	13 1/2	25	2 1/16	4.75	B	21 3/4	11	3 1/16	17.00	B
No. 14½					6 1/4	13	2 1/16	3.30*		14 1/2	28	2 1/16	5.00		23 3/4	12	3 1/16	19.00	
9 1/4	7	2 3/16	\$6.00*	B	7	14	2 1/16	3.70*		16	30	2 1/16	5.50	A	25 1/2	13	3 1/16	20.50	A
10 1/2	8	2 1/16	6.50*		7 1/2	15	2 1/16	4.15	B	18 1/4	34	2 1/16	6.00		27 1/2	14	3 1/16	22.50	
11 1/4	9	2 1/16	7.00*		8 1/2	17	2 1/16	4.50	A	20	37	2 1/16	6.50	B	29 1/4	15	3 1/16	25.00	
14 1/4	11	2 1/16	7.50*	B	9 1/2	19	2 1/16	5.10		21 1/4	40	2 1/16	7.20		30 3/4	16	3 1/16	26.00	B
15 3/4	12	2 1/16	8.00		10 1/2	21	2 1/16	5.90		25	47	2 1/16	8.00		35 1/4	18	3 1/16	28.00	
19 1/2	15	2 1/16	12.00		11 1/2	23	2 1/16	6.20		36	65	2 1/16	18.00		37	19	3 1/16	30.00	B
20 3/4	16	2 1/16	13.00		12 1/4	25	2 1/16	6.40	B	No. 77					48 3/4	25	3 1/16	42.00	
24 1/4	19	2 1/16	14.00		13 1/4	27	2 1/16	6.70		4 1/2	6	1 1/16	\$2.70*	B	60	31	3 1/16	58.00	
29 3/4	23	2 1/16	19.00		14 1/2	30	2 1/16	8.85	B	5 1/4	7	1 1/16	2.85*		No. 137				
34 3/4	27	2 1/16	23.00		16	33	2 1/16	7.10		6	8	1 1/16	3.00*		18 1/4	8	4 1/16	\$18.00*	B
39 3/4	31	2 1/16	25.00		20 1/2	42	2 1/16	7.25	B	6 3/4	9	2 3/16	3.20*		25	11	4 1/16	25.50	
47 1/2	37	2 1/16	36.00	B	25	51	2 1/16	7.50	B	7 1/4	10	2 1/16	3.40*		31 1/2	14	4 1/16	35.00	
No. 17					No. 40½					8	11	2 1/16	3.60*		36	16	4 1/16	38.00	
4 1/2	5	1 1/16	\$1.85*		9 1/4	7	2 3/16	\$6.00*	B	9	12	2 1/16	3.80*		No. 156 and 156-C				
5	6	1 1/16	2.40*		10 1/2	8	2 3/16	6.50*		10 1/2	13	2 1/16	4.00*		Use respectively same wheels as for Nos. 126 and 126-C.				
6	7	2 3/16	2.90*		15 3/4	15	2 1/16	12.00	B	11	15	2 1/16	4.40*						
6 3/4	8	2 1/16	3.50*		19 3/4	17	2 1/16	13.00		11 1/2	16	2 1/16	4.60						
7 1/2	9	2 1/16	4.00*		24 3/4	19	2 1/16	14.00		13 1/2	18	2 1/16	5.00						
8 1/2	10	2 1/16	4.50*		29 3/4	23	2 1/16	18.00		14	19	2 1/16	5.25	A					
9	11	2 1/16	5.10*		39 3/4	31	2 1/16	25.00	A	14 3/4	20	2 1/16	5.50						
10	12	2 1/16	5.60*		No. 52					16	22	2 1/16	6.00						
11 1/4	14	2 1/16	6.70*		3	6	1 1/16	\$1.50*	B	18 1/2	25	2 1/16	6.75	B					
12 1/2	15	2 1/16	7.80*		3 1/2	7	1 1/16	1.65*		19 1/2	27	2 1/16	7.25	B					
13 1/4	16	2 1/16	8.60*	B	3 3/4	8	1 1/16	1.80*		22 1/2	30	2 1/16	8.20						
14 3/4	18	2 1/16	9.70*		4 1/2	9	1 1/16	2.											

Steel Thimble Roller Chains



Style S



Style O

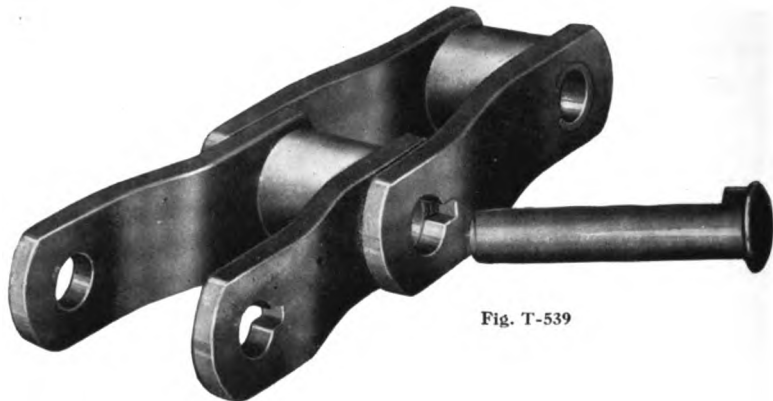


Fig. T-539

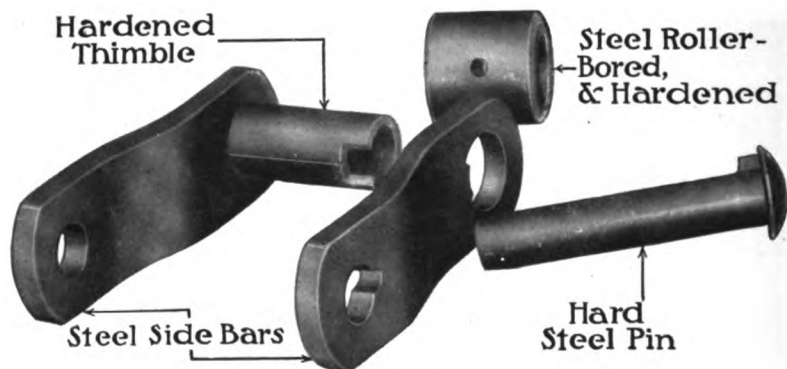


Fig. T-539A

Fig. T-539-A illustrates the method of assembling links. The lug-key prevents rotation of pin in side bars, distributing wear the full length of thimble.

Standard chains are riveted, also furnished with lock nuts or cottered pins when specified.

For proper direction to run chain, see page 182.

Chain Numbers	Style ***	List Price per Foot	Pitch, Inches	Approx. Wt., Lbs. per Foot	†Working Strength at 150 Feet per Min., Lbs.	** Max. Speed Feet per Min.	Dimensions in Inches				
							Side Bars		Pin Diam. G	Overall Width J	§Roller Diam. K
							B Width	C Thick			
14*	O	\$2.10	3.51	11.30	3700	500	1 1/2	1 1/2	5/8	3 3/4	1 5/8-S
17*	O	1.35	2.56	5.10	2100	700	1 1/4	1 1/4	1/2	2 5/16	1 1/8-S
112*	O	2.70	4.04	15.70	5600	400	2	1 1/2	3/4	4 1/8	1 7/8-S
120*	O	1.50	3.07	7.10	3100	600	1 3/8	5/16	9/16	3 1/16	1 1/4-S
126-D*	O	1.50	6.0	8.70	3700	400	1 1/2	1 1/2	5/8	3 3/4	2 1/4-S
126-DC†	O	1.50	6.0	9.40	3700	400	1 1/2	1 1/2	5/8	3 3/4	3-C
180†	S	2.00	12.0	14.20	6500	200	2 1/2	3/8	7/8	4 5/8	4-CF
182 1/2†	S	2.00	18.0	18.60	9700	150	2 1/2	1 1/2	1	5 3/16	5-CF
276†	S	1.50	12.0	12.20	5200	300	2 1/2	5/16	3/4	3 7/8	4-CF
433 1/2*	O	1.25	2.62	3.40	1900	700	1 1/8	1/4	7/16	2 9/16	7/8-S
809†	S	1.75	9.0	13.0	4500	350	2 1/2	1/4	3/4	3 9/16	3 1/2-CF
950*	S	1.40	1.5	2100	800	1 1/8	1 1/8	5/16	3/8	1 7/8	3 1/4-S
951	S	1.40	6.0	9.25	3750	450	2	3/8	5/8	3 1/4	3-C

*Sizes recommended for transmitting power, used also for conveyors. †Sizes for elevators and conveyors, used also for transmitting power. ‡Working strengths in table are increased or decreased for speeds other than 150 feet per minute (table, page 178). Use half of values thus obtained for service under gritty conditions.

Economical speeds are half of maximum speeds in above table. §Roller dimensions: S is steel roller without flange; C is cast-iron roller without flange; CF is cast-iron roller with flange. *Style S or O refers to straight or offset links—see above line sketches.

Attachments for Steel Thimble Roller Chains

Prices quoted upon application



D-2
(Steel)



E-1
(Steel)



E-1 1/2
(Malleable)



T-6 1/2
(Malleable)



MI Heavy with T-1/2
(Malleable)



MI Heavy with T-6 1/2
(Malleable)



T-1/2
(Malleable)



T
(Steel)

Cast-Iron Sprocket Wheels for Steel Thimble Roller Chains

Prices for chilled rim, steel sprockets and flanged idlers quoted upon application. Always state which are the driving and which are the driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated both kinds are made.

Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind	Diam-eter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Price	Kind
No. 14					No. 17—Continued					No. 120—Continued					No. 433 1/2—Continued				
6 1/4	5	2 7/16	\$4.50*		35 1/2	43	2 1/8	\$21.00		29 1/2	30	3 7/16	\$14.40		13 1/2	16	2 1/8	\$5.55	
7	6	2 7/16	5.10*		36 1/2	44	2 1/8	22.00		30 1/2	31	3 7/16	15.20		14 1/2	17	2 1/8	5.90	
8 1/4	7	2 11/16	5.70*		39 3/4	48	2 1/8	23.50		31 1/2	32	3 7/16	16.00		15 1/2	18	2 1/8	6.25	
9	8	2 1/8	6.50*		42 3/4	52	2 1/8	25.50	B	32 1/2	33	3 7/16	16.80		16 1/2	19	2 1/8	6.60	
10 1/4	9	2 1/8	7.80*		47 1/2	58	2 1/8	28.50	B	33 1/2	34	3 7/16	17.60		16 3/4	20	2 1/8	6.95	
11 1/4	10	2 1/8	11.60*		No. 112					34 1/2	35	3 7/16	18.40		17 1/2	21	2 1/8	7.30	
12 1/4	11	3 3/16	14.00*		8	6	2 7/16	\$8.00*		35 1/2	36	3 7/16	19.25		18 1/2	22	2 1/8	7.65	
13 1/4	12	3 3/16	16.00*		9 1/2	7	2 7/16	9.50*		36 1/2	37	3 7/16	20.20		19 1/4	23	2 1/8	8.00	
14 1/4	13	3 11/16	17.00*		10	8	2 1/8	10.50*		37 1/2	38	3 7/16	21.20		20 1/2	24	2 1/8	8.35	
16	14	3 1/8	18.00*		11 3/4	9	3 7/16	11.50*		39 1/4	40	3 7/16	23.10		21	25	2 1/8	8.70	
17	15	3 1/8	19.00		13	10	3 7/16	12.50*		40 1/2	41	3 7/16	24.00		22	26	2 1/8	9.05	B
18	16	3 1/8	20.00		16	12	4 7/16	15.00*		41 1/2	42	3 7/16	24.80	B	22 1/2	27	2 1/8	9.40	
19	17	3 1/8	21.00		17 1/4	13	4 7/16	16.50*		43 1/2	44	3 7/16	26.50	B	23 1/2	28	2 1/8	9.75	
20 1/4	18	3 1/8	22.00		18	14	4 7/16	18.00*		44 1/2	45	3 7/16	27.35		24 1/4	29	2 1/8	10.10	
21 1/4	19	3 1/8	23.00		20	15	4 7/16	21.00		45 1/4	46	3 7/16	28.20	B	25 1/2	30	2 1/8	10.45	
22 1/4	20	3 1/8	24.00		22 1/4	17	4 7/16	27.00		48	49	3 7/16	30.75		26 3/4	32	2 1/8	11.15	
23 1/4	21	3 1/8	25.00		23 1/2	18	4 7/16	29.00		No. 126-D					27 3/4	33	2 1/8	11.55	
24 1/4	22	3 1/8	28.00	B	25	19	4 7/16	34.00		Use Sprocket List No. 126 M.R. Chain. See page 197.					28 1/2	34	2 1/8	11.95	B
27	24	3 1/8	32.50	B	26 1/2	20	4 7/16	36.50	B	No. 126-DC					29 1/4	35	2 1/8	12.35	
28 1/4	25	3 1/8	33.50		28 1/2	22	4 7/16	38.50		Use No. 126-C M. R. Chain Wheels. See page 197.					30 1/4	36	2 1/8	12.75	
30	27	3 1/8	35.00		30	23	4 7/16	40.00		No. 180					31 1/4	37	2 1/8	13.20	
32 3/4	29	3 1/8	36.00		31	24	4 7/16	41.50		20 1/2	5	4 7/16	\$21.00*	B	32	38	2 1/8	13.65	
35 1/4	32	3 1/8	37.00		33 1/2	26	4 7/16	44.00	B	24	6	4 7/16	25.00		32 3/4	39	2 1/8	14.10	B
37 1/4	33	3 1/8	38.50	A	36 1/2	28	4 7/16	46.00		31 1/2	8	4 1/8	35.00		33 3/4	40	2 1/8	14.60	
39	35	3 1/8	39.00	A	40 1/2	31	4 7/16	47.00	B	35 1/2	9	4 1/8	40.00		36	43	2 1/8	16.20	
40 1/2	36	3 1/8	40.00		42 3/4	33	4 7/16	49.50	B	39 1/4	10	4 1/8	52.00		37	44	2 1/8	16.75	
42 1/2	38	3 1/8	42.00		No. 120					No. 182 1/2					37 3/4	45	2 1/8	17.30	A
48 1/4	43	3 1/8	52.00		6	6	1 1/8	\$3.60*		25 3/4	4	4 7/16	\$28.00	B	38 1/2	46	2 1/8	17.85	
No. 17					7	7	1 1/8	4.00*		30 3/4	5	4 1/8	35.00		41 1/4	49	2 1/8	19.50	
5 1/4	6	1 1/8	\$4.00*		8	8	2 7/16	4.40*		35 1/2	9	4 1/8	40.00		42	50	2 1/8	20.00	B
6 3/4	7	1 1/8	4.20*		9	9	2 7/16	4.80*		No. 276					48	57	2 1/8	24.25	
7 1/2	8	1 1/8	4.45*		10	10	2 1/8	5.25*		Same as No. 180					No. 809				
8 1/4	9	2 3/16	5.00*		11	11	3 7/16	5.65*		25 3/4	4	4 7/16	\$28.00	B	15 1/4	5	3 7/16	\$12.50	
9 3/4	10	2 3/16	5.30*		12	12	3 7/16	6.05*		30 3/4	5	4 1/8	35.00		23 1/2	8	3 7/16	20.00	
10 1/4	11	2 7/16	5.60*		13	13	3 7/16	6.45*		36	6	4 1/8	52.00		No. 950				
11 3/4	12	2 7/16	6.20*		14	14	3 7/16	6.85		41 1/2	7	4 1/8	63.00		3.92	8	1 7/16	\$2.00	
12 3/4	13	2 1/8	6.55		15	15	3 7/16	7.25		47 1/2	8	4 1/8	75.00		4.85	10	1 1/8	2.25	
13 1/4	14	2 1/8	6.90		16	16	3 7/16	7.65		No. 433 1/2					5.32	11	1 1/8	2.40	
14 1/4	15	2 1/8	7.30		17	17	3 7/16	8.05		4 1/2	5	1	\$2.75*		5.79	12	1 1/8	2.60	
15 1/2	16	2 1/8	7.65		18 1/4	18	3 7/16	8.45		5 1/4	6	1 3/16	2.90*		6.27	13	1 1/8	2.80	
16 1/2	17	2 1/8	8.45		19 3/4	19	3 7/16	8.90		6	7	1 1/8	3.10*		6.74	14	2 3/16	3.00	
18 1/2	18	2 1/8	9.20		20 3/4	20	3 7/16	9.40		6 3/4	8	1 1/8	3.30*		7.21	15	2 3/16	3.25	
20 1/4	20	2 1/8	10.00		21 3/4	21	3 7/16	9.90		7 3/4	9	2 1/8	3.50*		10.06	21	2 3/16	4.80	
21	21	2 1/8	10.50		22 3/4	22	3 7/16	10.35		8 1/4	10	2 1/8	3.75*		13.30	28	2 3/16	5.70	
22 1/4	22	2 1/8	11.25	B	23 3/4	23	3 7/16	10.80		9 1/4	11	2 1/8	4.00*		14.44	30	2 3/16	6.10	
23	23	2 1/8	12.00		24 3/4	24	3 7/16	11.20		10 1/4	12	2 1/8	4.30*		27.28	57	2 1/8	12.00	
24	24	2 1/8	12.55		25 3/4	25	3 7/16	11.70		11	13	2 1/8	4.60*		No. 951				
25	25	2 1/8	13.10	B	26 3/4	26	3 7/16	12.25		12	14	2 1/8	4.90		Same as No. 126-C. See Page 197				
25 3/4	31	2 1/8	14.00		27 3/4	27	3 7/16	12.75		12 1/2	15	2 1/8	5.20						
27 1/2	33	2 1/8	14.80		28 3/4	28	3 7/16	13.30											
30	36	2 1/8	17.50			29	3 7/16	13.85											
33	40	2 1/8	19.00	B															
34 3/4	42	2 1/8	19.50																

*Use pattern for cast-iron drivers. *Plate center wheels. Extra charges for long bores, large hubs, split hubs, and set screws over keyway, see page 182.

Riveted Malleable Drag Chains



Wing or C Attachment



Flight or D Attachment



Fig. T-540—Plain Chain



No. 480-R



No. 967-R



No. 990-R

This chain in either the plain or attachment links is especially adapted as a scraper for handling ashes or other gritty material in boiler house, conduits or trenches. For proper direction to run chain as a conveyor, see page 182.

Price List

Sizes	List Price per Foot	List Price of Rivets per 100	Pitch, Inches	Approx. Wt. per Foot Lbs.	Working Strength at 150 Feet per Min.	Works over Sprockets	Dimensions in Inches		
							Approx. Over-all Width	Height	Diam., Rivet
98-R Plain.....	\$.98	\$8.00	5	8.2	4200	98-R	7	1 1/2	5/8
100-R Plain.....	.98	9.50	5	8.2	4000	100-R	9	1 3/8	7/16
100-R Flight.....	1.05	9.50	5	9.1	4000	100-R	9	2 3/4	7/16
100-R Wing.....	1.28	9.50	5	10.6	4200	98-R	12	1 1/2	5/8
102-R Plain.....	1.13	10.50	5	9.1	4200	102-R	9	1 1/2	5/8
102-R Flight.....	1.20	10.50	5	9.4	4200	102-R	9	2 1/4	5/8
102-R Wing.....	1.35	10.50	5	10.9	4200	102-R	13 1/4	1 1/2	5/8
104-R Plain.....	.98	8.00	6	7.4	4200	104-R	7	1 1/2	5/8
104-R Flight.....	1.05	8.00	6		4200	104-R	7	2 1/8	5/8
104-R Wing.....	1.20	8.00	6	9.8	4200	104-R	11 1/4	1 1/2	5/8
110-R Plain.....	1.50	14.50	6	12.5	4200	110-R	12	1 1/2	5/8
110-R Flight.....	1.73	14.50	6	14.1	4200	110-R	12	2 7/8	5/8
110-R Wing.....	1.80	14.50	6	14.5	4200	110-R	17 1/2	1 1/2	5/8
110-R N.....	1.65	14.50	6		4200	110-R	12	3 3/8	5/8
112-R Plain*.....	1.35	14.50	8	10.0	4200	112-R	12	1 1/2	5/8
112-R C 45.....	2.78	14.50	8		4200	112-R	12	6	5/8
112-R Flight.....	1.50	14.50	8		4200	112-R	12	3 1/2	5/8
112-R N.....	1.50	14.50	8		4200	112-R	12	3 1/2	5/8
120-R Plain.....	2.55	19.00	6	16.0	5000	120-R	12	2	1 1/4
120-R Flight.....	2.70	19.00	6	17.7	5000	120-R	12	3 3/4	1 1/4
480-R Plain.....	2.25	24.00	8	16.2	5000	480-R	16 1/8	2 1/4	1 1/4
967-R Plain.....	1.80	19.00	6.07	15.2	5000	110-R	12 1/2	1 1/8	1 1/8
990-R Plain.....	2.65	50.00	6.07	18.8	5000	110-R	14 1/16	1 1/8	1 1/8
1051-R Plain.....	3.20	35.00	8.8		7500	1051-R	16 1/16	2	1 1/8
1156-R Plain.....	1.90	20.00	6.0	13.4	5000	1156-R	9 3/4	1 1/8	3/4

*Preferred size in 8-inch pitch. Working strengths in table are increased or decreased for speeds other than 150 feet per minute. See table, page 178. Maximum speeds for all the above chains are 200 feet per minute. Economical speeds in gritty materials not to exceed 100 feet per minute.

Cast-Iron Sprocket Wheels for Riveted Malleable Drag Chains

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application. Always state which are the driving and which are the driven wheels. Unless specified, driven wheels will ordinarily be furnished. "A" stands for driving and "B" for driven wheels. When not indicated both kinds are made.

Chain Numbers	Diameters in Inches	Number of Teeth	Largest Bore at Regular Price	List Price	Kind
98-R	On application				
100-R	19 1/2	12	2 15/16	\$19.80	B
	21 1/2	13	2 15/16	22.55	B
102-R	11 1/2	7	2 15/16	10.45	B
	13 1/4	8	2 15/16	12.10	B
	16 1/4	10	2 15/16	15.40	B
	19 1/2	12	2 15/16	19.80	A
104-R	21	13	2 15/16	22.55	B
	12	6	2 15/16	9.30	B
	14	7	2 15/16	10.70	
	15 3/4	8	2 15/16	12.10	
	18	9	2 15/16	13.55	B
	21 3/4	11	2 15/16	16.45	B
	25	13	2 15/16	24.00	B
110-R	8 1/2	4	2 15/16	10.00	B
	12 1/4	6	2 15/16	13.50	B
	15 1/4	8	2 15/16	19.60	B
	17 3/4	9	2 15/16	23.75	B
	21 3/4	11	2 15/16	32.15	
112-R	18 3/4	7	2 15/16	23.40	
	21	8	2 15/16	26.45	

NOTE—120-R, 480-R, 967-R 990-R, 1051-R, 1156-R. Prices quoted on application.

Flat and Round Steel Link Chains

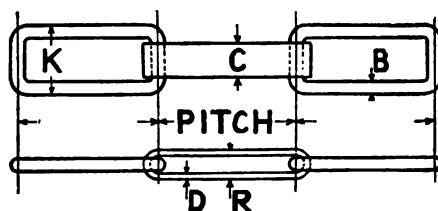


Fig. T-541

This chain is made of a good quality steel, has broad wearing surfaces, and is suitable for general elevating and conveying work. Repairs can be made by any mechanic.

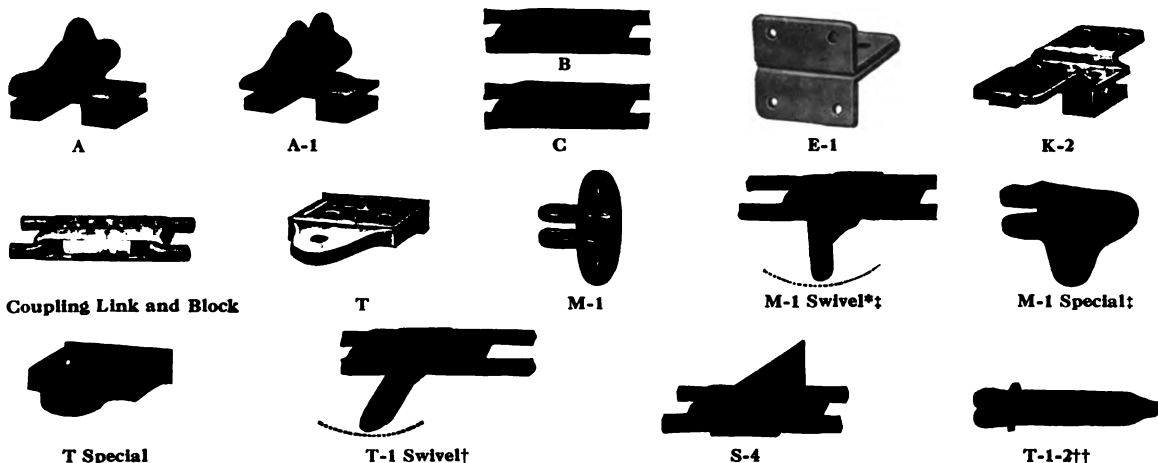
Price List

Chain No.	List Prices	Pitch, Inch	Approx. Wt. per ft. lbs.	Wkg. Stgth. at 150 ft. per Min. lbs.	Max. Speed ft. per Min.	Dimensions in Inches				
						B	C	D	K	R
504½	\$1.30	4.0	2.40	2475	250	1½	1¼	1¼	2½	1½
506	.90	6.0	2.10	2475	250	1½	1¼	1¼	2½	1½
516	1.10	6.0	3.45	3400	250	1½	1¼	1¼	3	1½
516½	1.50	6.0	4.66	5225	250	1½	1¼	1¼	3½	1½
518	1.25	8.0	4.49	5225	200	1½	1¼	1¼	3½	1½
520	1.90	8.0	6.82	6900	200	1½	1¼	1¼	4½	2
521	2.10	10.0	8.40	9800	150	1	2½	1½	4½	2½



Working strengths in tables are increased or decreased for speeds other than 150 feet per minute (table, page 178). Use half of working values thus obtained for service in abrasive materials. Economical speeds about .8 of maximum speeds listed.

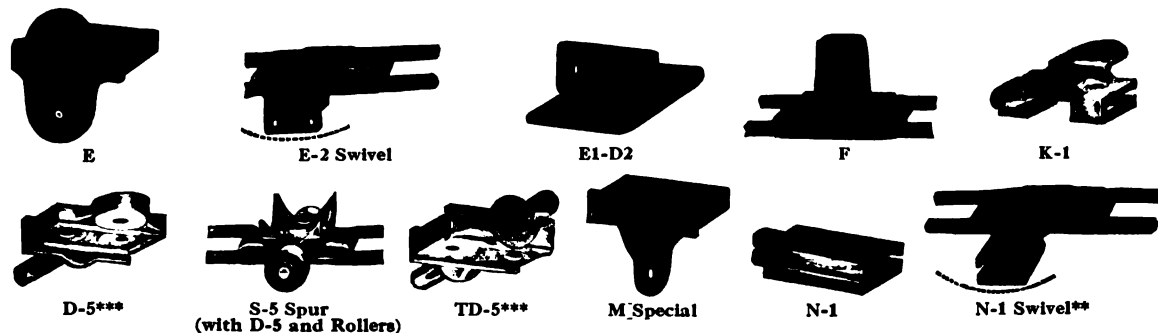
Standard Stock Attachments



* Made from T and M-1 as shown. † M-1 Special Swivel is made from T Special and M-1 Special.

† Made from T and with T1-2. †† T-1 female half plus T-2. Male half equals T1-2 as shown.

Standard Attachments—Made to Order



** Made from T and N-1. *** Two rollers on D-5 and one roller on TD-5 included in price list. TD-5 attachment will take the M-1 Special attachment.



Attachments for Flat and Round Steel Link Chains

Attachment	List Price, Each		Attachment	List Price, Each		Attachment	List Price, Each	
	Loose	Assem- bled in Chains		Loose	Assem- bled in Chains		Loose	Assem- bled in Chains
No. 504½			No. 516—Continued			No. 518		
A Malleable.....	\$.25	\$.35	S-4 Forged Steel.....	\$.70	\$.85	A-1 Malleable.....	\$.67	\$.80
K-2 Malleable.....	.30	.40	T Malleable.....	.18	.32	E-1 Forged Steel.....	.40	.65
S-4 Forged Steel.....	.55	.70	T Spec. Malleable.....	.18	.32	E-1 Heavy-Forged Steel.....	.50	.75
No. 506			T-1, T-2 for 1½-inch Pipe, 1½-inch Pipe = 32c.....	.25		E-1, D-2 Forged Steel.....	.55	.75
A Malleable.....	.29	.39	T D-5 Malleable.....	.25	.40	E-2 Malleable Wing Only.....	.35	
E-1 Forged Steel.....	.30	.42	E-2 Swivel.....	.40	.55	K-2 Malleable.....	.55	.70
K-2 Malleable.....	.30	.40	M-1 Swivel.....	.40	.55	K-2 Spec. Malleable.....	.50	.75
M Spec. Malleable.....	.25	.35	M-1 Special Swivel No. 1 Wing	.40	.55	M-1 Malleable Wing Only.....	.18	
M-1 Malleable Wing Only.....	.12		T Spec. Malleable with M-1 Spec.....			M-1 Spec. Mall. Wing Only.....	.20	
N-1 Malleable Wing Only.....	.25		No. 2 Wing (heavy).....	.40	.55	S-4 Forged Steel.....	.90	1.20
S-4 Forged Steel.....	.60	.75	N-1 Swivel.....	.40	.55	S-5 Spur with D-5 and Rollers.....	6.00	6.30
T Malleable.....	.15	.27	T-1 Swivel for 1½-inch Pipe.....	.43	.57	T Malleable.....	.30	.48
T-1, T-2 for 1½-inch Pipe.....	.25		T-1 Swivel for 1½-inch Pipe.....	.50	.64	T-1, T-2 for 1½-inch Pipe.....	.32	
T D-5 Malleable.....	.21	.35	No. 516½			E-2 Swivel.....	.70	.90
Mall. Roller Link with Roller.....	.50	.90	A-1 Malleable.....	.67	.80	M-1 Swivel.....	.55	.75
M-1 Swivel.....	.30	.42	E-1 Forged Steel.....	.40	.60	M-1 Special Swivel.....	.58	.77
N-1 Swivel.....	.35	.47	E-1, D-2 Forged Steel.....	.45	.65	T-1 Swivel for 1½-inch Pipe.....	.62	.80
T-1 Swivel for 1½-inch Pipe.....	.40	.52	E-2 Malleable Wing Only.....	.35		No. 520		
No. 516			K-2 Malleable.....	.55	.70	A-1 Malleable.....	.80	1.00
A Malleable.....	.40	.50	K-2 Spec. Malleable.....	.50	.75	E-1 Forged Steel.....	.60	1.00
E-1 Forged Steel.....	.35	.50	M-1 Malleable Wing Only.....	.18		E-1, D-2 Forged Steel.....	.60	1.10
E-1, D-2 Forged Steel.....	.40	.55	M-1 Spec. Malleable Wing.....	.20		K-2 Malleable.....	.80	1.00
E-2 Malleable Wing Only.....	.20		S-4 Forged Steel.....	.80	1.00	S-4 Forged Steel.....	.95	1.30
F Cast Steel.....	1.15	1.45	T Malleable.....	.30	.48	S-5 Spur with D-5 and Rollers.....	8.35	8.50
F Malleable.....	.75	1.05	T-1, T-2 for 1½-inch Pipe.....	.32		No. 521		
K-2 Malleable.....	.40	.52	T D-5 Malleable.....	.33	.50	E-1 Heavy-Forged Steel.....	.85	1.30
M Spec. Malleable.....	.30	.40	E-2 Swivel.....	.70	.90	E-1, D-2 Forged Steel.....	.85	1.30
M-1 Malleable Wing Only.....	.18		M-1 Swivel.....	.55	.75	M-1 Malleable Wing Only.....	.40	
M-1 Sp. No. 1 Mal. Wing (light).....	.18		M-1 Special Swivel.....	.58	.77	M-1 Spec. Mall. Wing Only.....	.55	
M-1 Sp. No. 2 Mal. Wing (heavy).....	.20		T-1 Swivel for 1½-inch Pipe.....	.62	.80	S-4 Forged Steel.....	1.50	1.90
N-1 Malleable Wing Only.....	.25		M Spec. (Use No. 516).....	.35	.50	S-5 Carrier with Roller.....	8.25	9.00
						T Spec. Malleable.....	.55	.80
						M-1 Special Swivel.....	1.20	1.45

*Made from T with washers and not T Special.

Price List of Coupling Links and Blocks

Attachments	Chain Numbers						
	504½	506	516	516½	518	520	521
Block only.....	\$.16	\$.16	\$.18	\$.20	\$.20	\$.35	\$.60
Coupling link and block.....	.30	.30	.45	.64	.68	1.15	2.10

Cast-Iron Sprocket Wheels for Flat and Round Steel Link Chains

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application.

Always state which are the driving and which are the driven wheels. Unless specified, driven wheels will be furnished. "A" stands for driving and "B" for driven wheel. When not indicated both kinds are made.

Diam., Inches	No. Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam., Inches	No. Teeth	Largest Bore at Reg. Price	List Prices	Kind	Diam., Inches	No. Teeth	Largest Bore at Reg. Price	List Prices	Kind
	One Tooth for every two Pitches					One Tooth for every two Pitches					One Tooth for every two Pitches			
No. 504½ F. and R.					Nos. 516 and 516½ F. and R.					No. 518 F. and R.				
10½	4	2⅞	\$3.75	B A	19¼	5	2⅞	\$10.50		56¾	11	4⅞	\$70.00	
13¼	5	2⅞	5.00		23¼	6	3⅞	16.00		72	14	4⅞	140.00	
18½	7	2⅞	8.50		27¼	7	3⅞	17.50		No. 520 F. and R.				
20¾	8	3⅞	9.50	B B	31	8	3⅞	19.00		21	4	4⅞	\$20.00	B
23¼	9	3⅞	11.50		34¾	9	3⅞	22.00		26	5	4⅞	24.00	
36	14	3⅞	18.00		38¾	10	3⅞	26.00		31¼	6	4⅞	35.00	
No. 506 F. and R.					42½	11	3⅞	32.00		36½	7	4⅞	42.00	
12	3	2⅞	\$7.00*	46	12	3⅞	42.00	46½		9	4⅞	62.00		
15½	4	2⅞	8.00*	58	15	3⅞	47.00	No. 521 F. and R.						
19¾	5	2⅞	9.50*		No. 518 F. and R.									
23½	6	2⅞	12.00		21	4	3⅞	\$17.00	B	26¼	4	4⅞	\$30.00	B
27	7	2⅞	15.00		26	5	3⅞	20.00		32½	5	4⅞	42.00	
Nos. 516 and 516½ F. and R.					31¼	6	4⅞	23.00		39	6	4⅞	55.00		B
16	4	2⅞	9.00		36½	7	4⅞	32.00						

*Plate center wheels; all others have arms. Extra charges for large bores, long hubs, split hubs, and set screws over keyway, see page 182.

Long Link Coil Chains



Fig. T-542

These chains are suitable for conveyors and elevators in the timber industry to handle logs, lumber, refuse, etc.

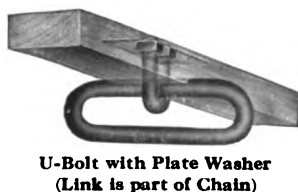
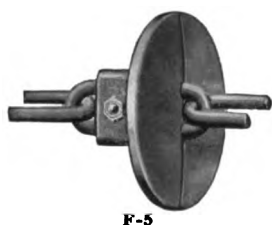
Price List

(Note wheel lists, pages 204 and 205, in making selection of chains)

Chain No.	List Price per Foot	Working Strength 150 Ft. per Min.	Max. † Speed Ft. per Min.	Dimensions in Inches			Chain No.	List Price per Foot	Working Strength 150 Ft. per Min.	Max. † Speed Ft. per Min.	Dimensions in Inches		
				Stock Diam.	Inside						Stock Diam.	Inside	
					Length	Width						Length	Width
482	\$.90	4500	175	1	8	2	547	\$.76	4000	225	$\frac{7}{8}$	5	1½
483		9400	150	1⅜	8	2½	676	.43	1960	225	$\frac{5}{8}$	5	1⅛
530	.35	1380	250	1½	4	$1\frac{13}{16}$	677	.73	3425	225	$\frac{7}{8}$	6	1¾
531	.40	2200	225	$\frac{5}{8}$	5	1	891	.87	5120	175	1	8	1¾
532	.50	3375	225	$\frac{3}{4}$	6	1⅛	892		16820	150	1¾	10	2⅝
533	.63	4820	200	$\frac{7}{8}$	7	1¼	896	.52	3030	225	$\frac{3}{4}$	6	1¼
534	.90	5120	175	1	7	1¼	907		7300	175	1⅛	7	1¾
535		6400	175	1⅛	8	2	916	.70	4000	225	$\frac{7}{8}$	6	1½
536		7800	175	1¼	8	2¼	917	.72	4800	225	$\frac{7}{8}$	5	1¼
538		13600	150	1½	8	2¼	918	.35	1125	225	1½	5	1
539	.74	4375	225	$\frac{7}{8}$	5	1⅝	919	.40	1467	225	$\frac{5}{8}$	6	1½
541	1.00	5120	200	1	6	1¾	921	.54	2525	225	$\frac{3}{4}$	6	1½
541½	.98	6000	200	1	6	1½	925	.00	6000	175	1	7	1½
542	.68	4820	225	$\frac{7}{8}$	6	1¼	927	.40	1380	275	1½	3½	$1\frac{13}{16}$
544	.56	3375	225	$\frac{3}{4}$	5	1⅛							

†For economy, speeds should not be in excess of .75 of maximum speeds. Working strengths are increased or decreased for speeds other than 150 feet per minute. See table, page 178. Use half of values thus obtained for service in abrasive, gritty materials

Attachments for Long Link Coil Chains



Price List, Each Complete With Bolts as Illustrated

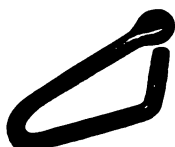
Chain No.	F-5 6-Inch Diam.	K-1	K 2	K-5	U-Bolt with Plate Washer
530		\$.34	\$.40	\$.25	\$.20
531	*		.50	.40	.25
532	*		.80	.45	.27
533			1.00	.50	.35
534					.45

*Prices quoted upon application. Prices of attachments not listed will be quoted upon application.

Attachments for Long Link Coil Chains



S-1½ Log Spur



Cold Shut Steel Coupling Link



Standard Coupling Link and Pin



Steel Forged Coupling Link and Pin

Price List

Chain Numbers	S-1½ Log Spur; Complete with Filler Blocks and Bolts						Malleable Iron Standard Coupling Links with Cottered Pins	
	Dimensions in Inches:		In Cast Iron		In Cast Steel		Chain Numbers	List Price, Each
	A Over-all Width	E Height	List Price, Each	Pattern No. of Spur	List Price, Each	Pattern No. of Spur		
530	7¾	2¾	\$.85	17473	\$2.30	17473	530	\$.30
531	8¼	3¼	1.25	18726	3.40	18726	531	.50
532	9	3½	1.85	18727	4.80	18727	532	.75
	11	5	2.25	24174	5.90	24174	533	1.00
533	9½	4	2.35	18728	6.00	18728	534	1.25
534	10	4¼	3.15	17211	7.00	17211	535	2.00
535	10½	4½	3.75	18729	8.30	18729	Cold Shut and Steel Forged Coupling for all sizes of coil chains quoted upon application	
536	11¼	5½	4.30	18730	9.80	18730		
538	12¾	5¾	6.00	18731	13.60	18731		
541	10	4¼	3.15	17211	7.00	17211		

†Spurs of the dimensions listed have proved in service to be well proportioned to size of stock in chains. Spurs of other dimensions, will be designed for special requirements.

Cast-Iron Sprocket Wheels for Long Link Coil Chains



Fig. T-543
Plain Solid Tooth Sprocket.
(a) With Gaps as Shown,
(b) Without Gaps



Fig. T-544
Plain Adjustable Tooth Sprocket Cast Steel Teeth.
(a) With Gaps, (b) Without Gaps as Shown



Fig. T-545
Flanged Solid Tooth Sprocket.
(a) With Gaps as Shown, (b) Without Gaps



Fig. T-546
Flanged Adjustable Tooth Sprocket—Teeth Cast Steel.
(a) With Gaps as shown, (b) Without Gaps

Price List

Chain Nos.	Diameter in Inches	No. of Teeth	Largest Bore, Regular Price	Fig. T-543		Fig. T-544†	Fig. T-545	Fig. T-546	Chain Nos.	Diameter in Inches	No. of Teeth	Largest Bore, Regular Price	Fig. T-543		Fig. T-544	Fig. T-545	Fig. T-546
				List Prices	Style		List Prices	Style					List Prices	Style		List Prices	Style
530	13	5	27.16	\$6.00	c		\$7.20	a	534	23¾	5	37.16	\$24.00	*c	\$57.00	a	\$75.00
530	15¾	6	28.16	7.50	c	\$30.00	9.00	a	534	31¾	6	47.16	31.00	b	37.20	†a	37.20
530	20	8	37.16	10.00	a		12.00	c	535	20½	6	47.16		b	80.00	b	94.00
530	23½	9	37.16	12.00	a		14.40	a	535	23½	6	47.16		b	105.00	b	120.00
531	13	4	27.16	6.00	b		7.20	a	536	26½	6	47.16	33.00	b	90.00	b	100.00
531	16¼	5	27.16	9.00	c		10.80	a	536	26½	6	47.16		b	100.00	b	
531	19½	6	27.16	14.00	†a	39.75	16.80	*a	541	19½	6	37.16		b		52.00	b
531	22½	7	27.16	15.00	b		18.00	a	542	23½	6	37.16		b	24.00	a	66.00
531	25¼	8	37.16	19.00	*a		22.80	a	543	16	5	27.16		b	17.00	a	48.00
531	29¼	9	37.16	24.00	a		28.80	a	544	19½	6	37.16		b			
532	19½	6	27.16	13.00	c		15.60	b	547	16½	5	27.16		b	28.80	b	
532	23½	7	27.16	17.00	c	49.50	20.40	*a	547	24½	6	37.16	31.00	*c		50.00	a
532	27	8	37.16		a		28.50	a	547	25½	6	37.16		b			
532	31	8	37.16	30.00	*a		36.00	a	587	24½	6	37.16		b			
533	18½	4	27.16	17.00	†b		20.40	b	587	29¼	6	37.16	31.00	b			
533	23	5	37.16	19.00	a	54.00	22.80	a	907	23¼	4	37.16	31.00	*b			
533	31¾	7	37.16	32.00	*a				914	24¾	9	37.16	24.00	b			

*Driver only. † Driven only; all others are driver or driven as ordered. \$Extra charge for large bores, long hubs and split hubs; page 182.

For short conveyors, ordinary service, solid tooth sprockets are recommended; for long conveyors, severe service, adjustable tooth sprockets. The gaps in adjustable tooth sprockets allow clearance of attachments or parts that may extend below the chain as it rides over the wheel.

Cast-Iron Idlers for Long Link Coil Chains



Fig. T-547
Heavy Flanged and
Grooved Idler

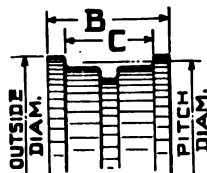
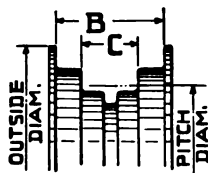


Fig. T-548
Inverted Spur
Idler

In the use of S-1½ Spurs (page 204) the width A of spurs must be less than dimensions B of heavy flanged and grooved idlers (Fig. T-547).

Price List

Heavy Flanged and Grooved Idlers							Inverted Spur Idlers						
Chain Numbers	Pitch Diam., Inches	List Prices	Pattern No.	Dimensions in Inches		Outside Diameters, Inches	Chain Numbers	Pitch Diam., Inches	List Prices	Pattern No.	Dimensions in Inches		Outside Diameters, Inches
				B	C						B	C	
530	16	\$15.00	18993	9	3¾	23½	531	17½	\$15.00	14837	6¼	3½	17½
531	16	25.00	18994	9⅝	4¼	24⅜	532	18½	16.00	†	6¼	3¾	20
531	16	25.00	13440	9⅞	3⅝	22½	532	20	17.00	5129	6¾	4	22¾
532	24	49.00	18995	10¾	4⅞	33⅜	532	24	19.00	†	6¾	3¾	25½
*533	24	53.00	18996	9½	5¼	29⅞	533	23	19.00	†	5¼	3½	24⅞
*534	27	55.00	18997	10	6⅜	33¼	534	19½	24.00	†	7¼	4⅝	20½
*535	27	60.00	18998	10½	6¾	34⅝	535	23	30.00	†	8	4¾	24
*536	27	70.00	18999	11¼	7½	35	536	20	28.00	8231	8	5¼	21¼
*538	27	122.00	19000	12¾	8¼	35¾	536	26	31.00	13634	8	5¼	27¼
							907	19½	25.00	†	7¼	4⅞	20½

*These idlers have no outside flanges. †Order by name, chain number, and pitch diameter. §Support inverted spurs on runways between idlers. This is a preferred construction.



Fig. T-549
Drum Idler with Flanges but
without Steel Extensions



Fig. T-550
Drum Idler with Steel Extensions



Fig. T-551
Plain Grooved
Idler

Price List

Drum Idlers							Plain Grooved Idler†		
Chain Numbers	Without Steel Extensions			With Steel Extensions			Chain Numbers	Pitch Diameter, Inches	List Prices
	Pitch Diameter, Inches	Face, Inches	List Prices	Pitch Diameter, Inches	Face, Inches	List Prices			
530	12	5¾	\$7.50	12	12 to 16	\$15.00	530	12	\$7.00
530	16	6	9.50	16	16 " 20	19.00	530	16	8.00
531	16	6½	11.00	16	16 " 20	20.00	531	14	7.50
531	19	6½	13.50	19	20 " 24	27.00	531	20	11.00
531	20	6	14.50	20	20 " 24	32.00	532	20	17.00
532	20	8	18.50	20	20 " 24	35.00	534	24	23.80
532	24	8	23.50	24	20 " 24	45.00	†Plain grooved idlers are used for the support of plain chains or chains with U-bolts and cross-bars, page 203, where the cross-bars rest in trough or on outside supports.		
533	20½	8	25.50	20½	20 " 24	43.00			
533	24	9½	30.00	24	20 " 24	47.00			
534	24	9¼	32.00	24	20 " 24	52.00			

Standard Log Haul-Up Equipment



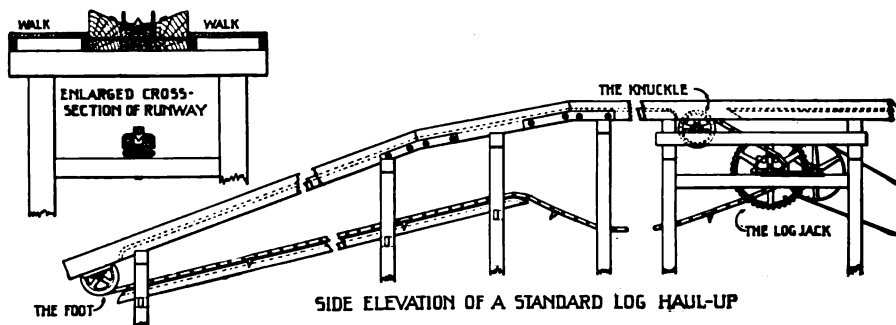
Fig. T-552

This equipment consists of log jack, knuckle and foot shafts complete. The following prices do not include pulley or cast iron frames illustrated by Fig. T-552. Head shaft is supplied with angle pillow blocks; countershaft with standard rigid pillow blocks.

Price List

Equipment Numbers	Chain Numbers	Head Shaft	Sprocket		Gear			Counter-shaft	Pinion			Knuckle Shaft	Drum	Foot Shaft	List Prices
			Number of Teeth	Pitch Diameter	Pitch	Diameter	Face		Pitch	Diameter	Face		Diameter, Inches		
A	530	2 ¹⁵ / ₁₆	6	15 ³ / ₄	1 ¹ / ₄	30	3	2 ⁷ / ₁₆	1 ¹ / ₄	6	3 ¹ / ₄	1 ¹⁵ / ₁₆	16	2 ⁷ / ₁₆	\$250.00
B	531	2 ¹⁵ / ₁₆	6	19 ¹ / ₂	1 ¹ / ₄	30	3	2 ⁷ / ₁₆	1 ¹ / ₄	6	3 ¹ / ₄	1 ¹⁵ / ₁₆	16	2 ⁷ / ₁₆	310.00
C	532	3 ⁷ / ₁₆	6	23 ¹ / ₂	1 ¹ / ₂	40	4	2 ¹⁵ / ₁₆	1 ¹ / ₂	7 ¹ / ₄	4 ¹ / ₂	2 ⁷ / ₁₆	24	2 ¹⁵ / ₁₆	500.00
D	533	3 ¹⁵ / ₁₆	5	23	2	48 ¹ / ₂	6	2 ¹⁵ / ₁₆	2	9 ¹ / ₂	6 ¹ / ₂	2 ¹⁵ / ₁₆	24	2 ¹⁵ / ₁₆	640.00
E	534	3 ¹⁵ / ₁₆	5	23 ³ / ₄	2	48 ¹ / ₂	6	2 ¹⁵ / ₁₆	2	9 ¹ / ₂	6 ¹ / ₂	2 ¹⁵ / ₁₆	27	2 ¹⁵ / ₁₆	660.00

Construction





Malleable Roller Log Haul-Up Chains

Fig. T-553

Price List

Chain Numbers	Working Strength at 150 Feet per Min. Lbs.	Malleable Iron		Steel Pin, Inches	List Price per Foot, Plain	List Price per Foot, Spur Every Link
		Pitch of Chain, Inches	Over-all Width of Chain, Inches	Size of Pin		
6	6000	8	5	$\frac{7}{8}$	\$2.65	\$4.65
6C	6000	8	5	$\frac{7}{8}$	2.85	4.85

Cast-Iron Sprocket Wheels for Malleable Roller Log Haul-up Chains

Prices for chilled rims, steel sprockets and flanged idlers quoted upon application. Always state which are the driving and which are the driven wheels. Unless specified, driven wheels will ordinarily be furnished. "A" stands for driving, and "B" for driven wheels. When not indicated, both kinds are made.											
Chain No.	Diameter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind	Chain No.	Diameter, Inches	No. of Teeth	Largest Bore at Reg. Price	List Prices	Kind
6	13 $\frac{3}{4}$	5	2 $\frac{1}{2}$ $\frac{5}{8}$	\$13.00	A	6-C 3-inch roller	16	6	3 $\frac{1}{2}$ $\frac{5}{8}$	\$14.50*	B
	15 $\frac{1}{4}$	6	3 $\frac{1}{2}$ $\frac{5}{8}$	14.50			18 $\frac{1}{2}$	7	3 $\frac{1}{2}$ $\frac{5}{8}$	16.00*	B
	21 $\frac{1}{4}$	8	3 $\frac{1}{2}$ $\frac{5}{8}$	23.00			21	8	3 $\frac{1}{2}$ $\frac{5}{8}$	23.00*	
	23 $\frac{1}{2}$	9	3 $\frac{1}{2}$ $\frac{5}{8}$	27.00	B		26	10	4 $\frac{1}{2}$ $\frac{5}{8}$	29.00	
	36 $\frac{1}{2}$	14	4 $\frac{1}{2}$ $\frac{5}{8}$	41.00	A		36 $\frac{1}{4}$	14	4 $\frac{1}{2}$ $\frac{5}{8}$	41.00	A

*Plate center wheels; all others have arms.

Extra charge for large bores, long hubs, split hubs, and set screws over keyway, see page 182

Cast-Iron Chilled Rim Traction Wheels

For detachable link, riveted drive, square shank pin combination and steel bushed combination chains.



Fig. T-554

Actual Diam.	Pattern No.	Largest Bore at Reg. Price, Inches	List Prices	Actual Diam.	Pattern No.	Largest Bore at Reg. Price, Inches	List Prices	Actual Diam.	Pattern No.	Largest Bore at Reg. Price, Inches	List Prices	Actual Diam.	Pattern No.	Largest Bore at Reg. Price, Inches	List Prices
No. 57, 67, 77 Detachable				No. 103, 114, 124 Detachable				No. 102, 102-B, 110 Square Shank Pin Combination				No. 82 Riveted Drive			
9 $\frac{1}{4}$	29720	2 $\frac{1}{2}$ $\frac{5}{8}$	\$4.30	9 $\frac{1}{4}$	29715	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30	20 $\frac{3}{4}$	29727	2 $\frac{1}{2}$ $\frac{5}{8}$	\$11.00	9 $\frac{1}{4}$	29715	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30
12	29718	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00	12	29718	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00	21 $\frac{1}{4}$	29728	2 $\frac{1}{2}$ $\frac{5}{8}$	11.00	12	29718	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00
13 $\frac{1}{4}$	29781	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00	13 $\frac{1}{4}$	29773	2 $\frac{1}{2}$ $\frac{5}{8}$	7.25	24 $\frac{1}{4}$	29712	2 $\frac{1}{2}$ $\frac{5}{8}$	13.00	13 $\frac{1}{4}$	29773	2 $\frac{1}{2}$ $\frac{5}{8}$	7.25
19 $\frac{1}{2}$	29724	2 $\frac{1}{2}$ $\frac{5}{8}$	9.00	19	29725	2 $\frac{1}{2}$ $\frac{5}{8}$	10.00	28	29766	2 $\frac{1}{2}$ $\frac{5}{8}$	15.25	22 $\frac{3}{4}$	29743	3 $\frac{1}{2}$ $\frac{5}{8}$	15.00
23 $\frac{1}{2}$	29744	3 $\frac{1}{2}$ $\frac{5}{8}$	15.50	20 $\frac{1}{4}$	29748	3 $\frac{1}{2}$ $\frac{5}{8}$	12.00	30 $\frac{1}{4}$	29755	2 $\frac{1}{2}$ $\frac{5}{8}$	16.50				
No. 66 Detachable				22 $\frac{3}{4}$	29743	3 $\frac{1}{2}$ $\frac{5}{8}$	15.00	No. 111 Square Shank Pin Combination				No. 87 Riveted Drive			
9 $\frac{1}{4}$	29720	2 $\frac{1}{2}$ $\frac{5}{8}$	\$4.30	23 $\frac{1}{4}$	29744	3 $\frac{1}{2}$ $\frac{5}{8}$	15.50	21 $\frac{1}{2}$	60271	3 $\frac{1}{2}$ $\frac{5}{8}$	\$13.00	11 $\frac{1}{2}$	29779	2 $\frac{1}{2}$ $\frac{5}{8}$	\$6.50
13 $\frac{1}{4}$	29781	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00	29 $\frac{1}{2}$	29740	3 $\frac{1}{2}$ $\frac{5}{8}$	20.00	28 $\frac{1}{2}$	60255	3 $\frac{1}{2}$ $\frac{5}{8}$	18.00	No. 95 Riveted Drive			
19 $\frac{1}{2}$	29724	2 $\frac{1}{2}$ $\frac{5}{8}$	9.00	No. 104$\frac{1}{2}$ Detachable				No. 131 Square Shank Pin Combination				21 $\frac{1}{4}$	29728	2 $\frac{1}{2}$ $\frac{5}{8}$	\$11.00
No. 75, 78, 88 Detachable				11 $\frac{1}{8}$	29779	2 $\frac{1}{2}$ $\frac{5}{8}$	\$6.50	9 $\frac{1}{4}$	29715	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30	24 $\frac{1}{4}$	29712	2 $\frac{1}{2}$ $\frac{5}{8}$	13.00
9 $\frac{1}{4}$	29715	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30	19	29725	2 $\frac{1}{2}$ $\frac{5}{8}$	10.00	13 $\frac{1}{4}$	29773	2 $\frac{1}{2}$ $\frac{5}{8}$	7.25	28	29766	2 $\frac{1}{2}$ $\frac{5}{8}$	15.25
12	29718	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00	20 $\frac{1}{4}$	29748	3 $\frac{1}{2}$ $\frac{5}{8}$	12.00	34 $\frac{3}{8}$	28505	3 $\frac{1}{2}$ $\frac{5}{8}$	22.00	30 $\frac{1}{4}$	29755	2 $\frac{1}{2}$ $\frac{5}{8}$	16.50
13 $\frac{1}{4}$	29773	2 $\frac{1}{2}$ $\frac{5}{8}$	7.25	No. 108 Detachable				No. 132 Square Shank Pin Combination				No. 104 Riveted Drive			
15 $\frac{1}{8}$	29777	2 $\frac{1}{2}$ $\frac{5}{8}$	7.50	8 $\frac{1}{4}$	29721	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30	20 $\frac{3}{4}$	60374	3 $\frac{1}{2}$ $\frac{5}{8}$	\$14.60	13 $\frac{1}{2}$	60058	2 $\frac{1}{2}$ $\frac{5}{8}$	\$7.50
19 $\frac{1}{2}$	29724	2 $\frac{1}{2}$ $\frac{5}{8}$	9.00	11	29716	2 $\frac{1}{2}$ $\frac{5}{8}$	6.80	22 $\frac{1}{2}$	60375	3 $\frac{1}{2}$ $\frac{5}{8}$	16.50	No. 823 Steel Bushed Combination			
23 $\frac{1}{2}$	29735	2 $\frac{1}{2}$ $\frac{5}{8}$	10.00	14	29723	3 $\frac{1}{2}$ $\frac{5}{8}$	8.30	29 $\frac{1}{2}$	60376	3 $\frac{1}{2}$ $\frac{5}{8}$	23.60	9 $\frac{1}{4}$	29715	2 $\frac{1}{2}$ $\frac{5}{8}$	\$5.30
29 $\frac{1}{4}$	29741	2 $\frac{1}{2}$ $\frac{5}{8}$	12.75	16 $\frac{1}{4}$	29772	3 $\frac{1}{2}$ $\frac{5}{8}$	9.25	33 $\frac{3}{4}$	60377	3 $\frac{1}{2}$ $\frac{5}{8}$	27.80	11 $\frac{1}{2}$	29717	2 $\frac{1}{2}$ $\frac{5}{8}$	5.50
No. 83 Detachable				18	29770	3 $\frac{1}{2}$ $\frac{5}{8}$	10.50	No. 73, 78 Riveted Drive				12	29718	2 $\frac{1}{2}$ $\frac{5}{8}$	6.00
13 $\frac{1}{4}$	29781	2 $\frac{1}{2}$ $\frac{5}{8}$	\$6.00	20	29729	3 $\frac{1}{2}$ $\frac{5}{8}$	12.00	No. 74 Riveted Drive				13 $\frac{1}{4}$	29773	2 $\frac{1}{2}$ $\frac{5}{8}$	7.25
23	29734	2 $\frac{1}{2}$ $\frac{5}{8}$	10.00	21 $\frac{3}{4}$	29753	3 $\frac{1}{2}$ $\frac{5}{8}$	13.00	9 $\frac{1}{4}$	29720	2 $\frac{1}{2}$ $\frac{5}{8}$	\$4.30	No. 825 Steel Bushed Combination			
No. 85, 95 Detachable				23	29761	3 $\frac{1}{2}$ $\frac{5}{8}$	14.00	28 $\frac{1}{2}$	29763	2 $\frac{1}{2}$ $\frac{5}{8}$	12.40	20 $\frac{1}{4}$	29748	3 $\frac{1}{2}$ $\frac{5}{8}$	\$12.00
11	29780	2 $\frac{1}{2}$ $\frac{5}{8}$	\$6.80	24 $\frac{1}{4}$	29751	3 $\frac{1}{2}$ $\frac{5}{8}$	15.00	No. 75 Riveted Drive				No. 847 Steel Bushed Combination			
13 $\frac{1}{8}$	29776	2 $\frac{1}{2}$ $\frac{5}{8}$	7.30	25	29752	3 $\frac{1}{2}$ $\frac{5}{8}$	15.50	19 $\frac{1}{2}$	29724	2 $\frac{1}{2}$ $\frac{5}{8}$	\$9.00	23	60068	4 $\frac{1}{2}$ $\frac{5}{8}$	\$32.00
15	29771	2 $\frac{1}{2}$ $\frac{5}{8}$	8.50	29	29754	2 $\frac{1}{2}$ $\frac{5}{8}$	18.50	No. 844 Steel Bushed Combination				22 $\frac{1}{2}$	60271	3 $\frac{1}{2}$ $\frac{5}{8}$	\$20.00
16 $\frac{1}{4}$	29768	2 $\frac{1}{2}$ $\frac{5}{8}$	9.00	32	29790	3 $\frac{1}{2}$ $\frac{5}{8}$	21.50					28 $\frac{1}{2}$	60255	3 $\frac{1}{2}$ $\frac{5}{8}$	26.00
18 $\frac{1}{4}$	29788	2 $\frac{1}{2}$ $\frac{5}{8}$	9.50	34 $\frac{3}{8}$	29737	3 $\frac{1}{2}$ $\frac{5}{8}$	23.50								
20 $\frac{1}{4}$	29732	2 $\frac{1}{2}$ $\frac{5}{8}$	11.00	No. 122 Detachable											
23 $\frac{1}{4}$	29762	2 $\frac{1}{2}$ $\frac{5}{8}$	12.40	10 $\frac{1}{4}$	29722	2 $\frac{1}{2}$ $\frac{5}{8}$	\$6.50								
24 $\frac{1}{2}$	29787	2 $\frac{1}{2}$ $\frac{5}{8}$	14.00	14 $\frac{1}{2}$	29782	2 $\frac{1}{2}$ $\frac{5}{8}$	8.80								
30 $\frac{3}{4}$	29739	2 $\frac{1}{2}$ $\frac{5}{8}$	17.00	18 $\frac{3}{4}$	29730	3 $\frac{1}{2}$ $\frac{5}{8}$	13.00								
35 $\frac{1}{2}$	29736	2 $\frac{1}{2}$ $\frac{5}{8}$	21.25	20 $\frac{3}{4}$	29745	3 $\frac{1}{2}$ $\frac{5}{8}$	14.60								
				26 $\frac{3}{4}$	29756	3 $\frac{1}{2}$ $\frac{5}{8}$	21.00								
				28 $\frac{3}{4}$	29746	3 $\frac{1}{2}$ $\frac{5}{8}$	23.00								
				30 $\frac{1}{2}$	29767	3 $\frac{1}{2}$ $\frac{5}{8}$	24.00								

Extra charges for large bores, long hubs, split hubs, and set screws over keyway, see page 182.

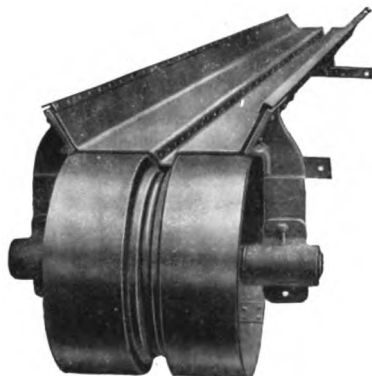
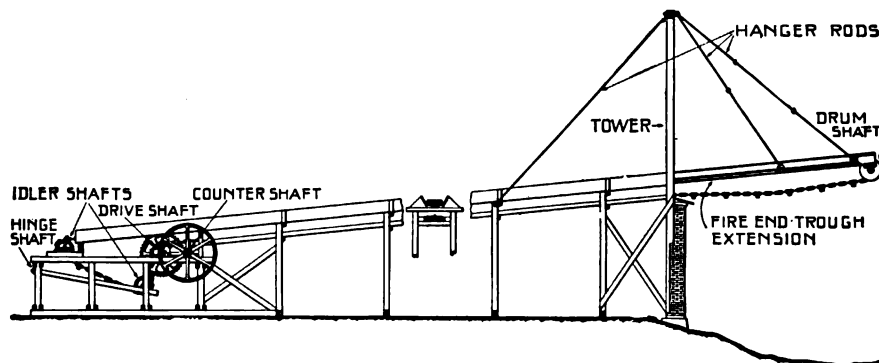


Fig. T-555

Fire End Terminals

Consisting of a trough extension over fire with angle iron stiffeners at top edge, drum, cast-iron brackets, drum shaft, bearings, collars and hanger rods.

Refuse Conveyor Equipment



Typical Refuse Conveyor, Showing Fire End

Price List

Equipment Number	Chain Numbers	Drive Shaft	Sprocket		Gear			Countershaft	Pinion			Idle Shaft	Drum Idle Diam., Inches	Fire End Trough			Drum Shaft	Foot Drum		List Prices With Fire End Trough	*List Prices Without Fire End
			Teeth	Diameter	Pitch	Diameter	Face		Pitch	Diameter	Face			Length, Feet	Width, Inches	Gauge, Steel		Diameter, Inches	Face, Inches		
A	530	2 ⁷ / ₁₆	6	15 ³ / ₄	1 ¹ / ₄	30	3	1 ¹³ / ₁₆	1 ¹ / ₄	6	3 ¹ / ₄	1 ⁷ / ₁₆	16	20	16 ¹ / ₂	10	2 ⁷ / ₁₆	20	16	\$525.00	\$265.00
B	531	2 ¹⁵ / ₁₆	6	19 ¹ / ₂	1 ¹ / ₄	30	3	2 ⁷ / ₁₆	1 ¹ / ₄	6	3 ¹ / ₄	1 ⁷ / ₁₆	16	20	16 ¹ / ₂	10	2 ¹⁵ / ₁₆	20	16	580.00	320.00
C	532	3 ⁷ / ₁₆	6	23 ¹ / ₂	1 ¹ / ₂	40	4	2 ⁷ / ₁₆	1 ¹ / ₂	7 ¹ / ₄	4 ¹ / ₂	1 ¹³ / ₁₆	20	20	20 ¹ / ₂	3 ¹ / ₁₆	3 ⁷ / ₁₆	20	20	730.00	450.00
D	533	3 ¹⁵ / ₁₆	5	23	2	48 ¹ / ₂	6	3 ⁷ / ₁₆	2	9 ¹ / ₂	6 ¹ / ₂	1 ⁷ / ₁₆	24	20	24 ¹ / ₂	3 ¹ / ₁₆	3 ¹⁵ / ₁₆	24	24	980.00	690.00
E	534	3 ¹⁵ / ₁₆	5	23 ³ / ₄	2	48 ¹ / ₂	6	3 ⁷ / ₁₆	2	9 ¹ / ₂	6 ¹ / ₂	1 ⁷ / ₁₆	24	20	24 ¹ / ₂	3 ¹ / ₁₆	3 ¹⁵ / ₁₆	24	24	1000.00	710.00

Prices do not include chain for conveyor or terminals. The amount of chain required equals twice the conveyor centers plus 10 feet.

Wood flights and U bolts are not furnished unless specified. Flights are spaced 4 feet apart on chain

*When fire end is omitted, two standard solid journal boxes are furnished for the foot end in place of brackets and bearings which are attached to the fire end trough.

Elevator Casings

Single and Double Leg Types

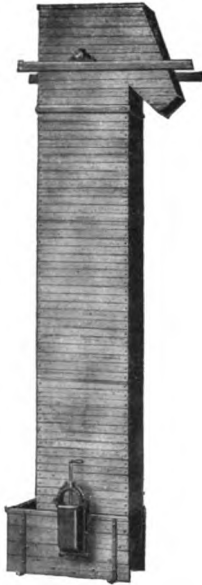


Fig. T-556
Single Leg Wooden Casing
Wood Boot, Steel Bottom.

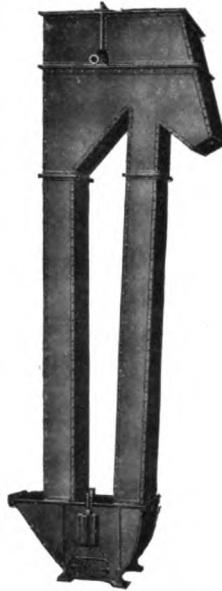


Fig. T-557
Double Leg Steel Casing.



Fig. T-558
Single Leg Steel Casing.
Take-ups at Top.

All Cast-Iron Elevator Boots

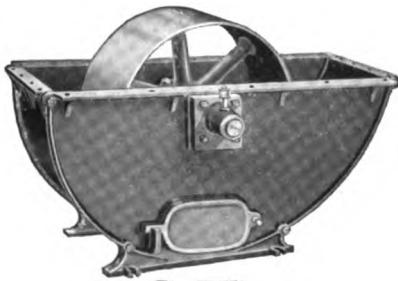


Fig. T-559

Price List

Length of Bucket	List Price for Boot No. 57 or 58	Length of Bucket	List Price for Boot No. 57 or 58
6 to 8	\$52.00	16	\$64.00
10	55.00	18	67.00
12	58.00	20	71.00
14	61.00	24	78.00

This boot, made in two sizes, has fixed dust-proof bearings and a sectional all-cast-iron renewable bottom. A one-piece ($\frac{1}{4}$ -inch) steel plate bottom can be furnished in place of the cast-iron where required. Boots of this type are used for ashes, sand, ore, etc.

Prices include boot complete with $2\frac{1}{2}$ -inch bearings, shaft, and one wheel not to exceed 24 inches in diameter. For boots Nos. 57 and 58 the distance from the center of shaft to lip of bucket must not exceed $16\frac{1}{2}$ and $18\frac{1}{2}$ inches respectively.

Standard Cast-Iron Elevator Boots

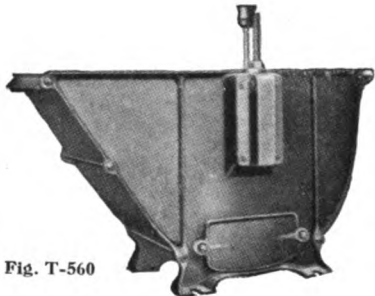
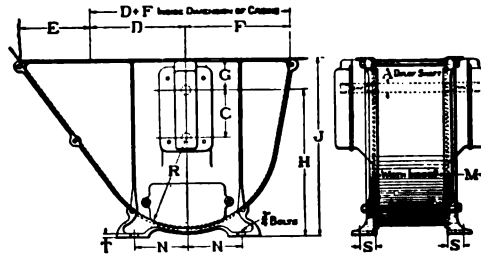


Fig. T-560



Boots are supplied with adjustable bearings and steel plate bottoms and the receiving throats are set at the correct angle to readily pick up flowing materials. They are dust tight and provided with large clean-out doors. The leg seats are perfectly straight so that no special work is necessary to fit the elevator leg.

Number of Boot	Dimensions in Inches												
	A	C	D	E	F	G	H	J	M	N	R	S	T
111	1 $\frac{1}{16}$	6	12	9	13	3 $\frac{7}{8}$	18 $\frac{3}{8}$	22 $\frac{3}{4}$	4 $\frac{7}{8}$	6 $\frac{3}{4}$	11	2	7 $\frac{1}{16}$
112	1 $\frac{1}{16}$	6 $\frac{1}{2}$	16	10	17	3 $\frac{5}{8}$	23 $\frac{1}{8}$	26 $\frac{7}{8}$	5 $\frac{1}{4}$	8 $\frac{1}{4}$	15	2	1 $\frac{1}{2}$
113	1 $\frac{1}{16}$	8	19	12	20	4 $\frac{1}{16}$	27 $\frac{3}{4}$	32 $\frac{9}{16}$	5 $\frac{5}{8}$	10	18	2 $\frac{1}{4}$	9 $\frac{1}{16}$
114	2 $\frac{1}{16}$	10	22	15	23	5 $\frac{3}{4}$	33	38 $\frac{3}{4}$	5 $\frac{7}{8}$	12	21	2 $\frac{1}{2}$	5 $\frac{5}{8}$

Price List—Buckets hung by back to Belt or Chain†

Length and Projection of Bucket	†Diam-eter of Pulley or Sprocket	Diam-eter of Shaft, Inches	Approx. Weight, Pounds	List Price with Sprocket or Pulley	Length and Projection of Bucket	†Diam-eter of Pulley or Sprocket	Diam-eter of Shaft, Inches	Approx. Weight, Pounds	List Price with Sprocket or Pulley	Length and Projection of Bucket	†Diam-eter of Pulley or Sprocket	Diam-eter of Shaft, Inches	Approx. Weight, Pounds	List Price with Sprocket or Pulley									
Boot Number 111					Boot No. 112—Continued					Boot No. 113—Continued													
3 x3 3½x3 3½x3½	14 13 13	1½	215	\$29.75	9x4½ 9x5 9x5½	18 17 16	1⅛	375	\$41.50	18x6½ 18x7	20 18	1½	780	\$74.00									
4 x3 4 x3½ 4 x4	14 13 12				10x5 10x5½	17 16				1⅛	385				42.50	20x6 20x6½ 20x7	21 20 18	1½	820	80.00			
4½x3 4½x3½ 4½x4	14 13 12					225										30.25	Boot No. 113					Boot No. 114	
5 x3 5 x3½ 5 x4	14 13 12	1½	230	30.60			10x6 10x6½ 10x7	21 20 18	1½			625	\$61.00	12x 8 12x 9 12x10			22 20 18				2⅛	980	\$87.00
5½x3 5½x3½ 5½x4	14 13 12				1½		235	31.00		11x6 11x6½ 11x7	21 20 18			1½	640		62.50	14x 8 14x 9 14x10	22 20 18	2⅛				1035	91.00
6 x3 6 x3½ 6 x4	14 13 12					1½				240	31.50					12x6 12x6½ 12x7		21 20 18	1½							660	64.00	16x 8 16x 9 16x10	22 20 18	2⅛	1090	94.00
Boot Number 112									13x6 13x6½ 13x7			21 20 18	1½			680		65.50			18x 8 18x 9 18x10	22 20 18	2⅛					1145	98.00
6 x4½ 6 x5 6 x5½	18 17 16	1⅞	335	\$38.50	14x6 14x6½ 14x7		21 20 18	1½	700			67.00		20x 8 20x 9 20x10	22 20 18		2⅛			1200	105.00		
7 x4½ 7 x5 7 x5½	18 17 16				1⅞	345	39.50			15x6 15x6½ 15x7	21 20 18			1½	720				68.50			22x 8 22x 9 22x10		22 20 18	2⅛	1255	109.00
8 x4½ 8 x5 8 x5½	18 17 16									1⅞	360		40.50			16x6 16x6½ 16x7		21 20 18				1½	740	71.00				24x 8 24x 9 24x10	22 20 18	2⅛	1310	114.00
								18x6	21			1⅞				780	74.00						

*Width inside is equal to over-all width of moving parts plus 3 inches. When belts are used, it is equal to belt width plus 2 inches.

†For boots taking buckets hung between two strands of chains, add 15 per cent extra to above list prices for boots taking buckets hung to eleven inches and 10 per cent extra on all larger sizes.

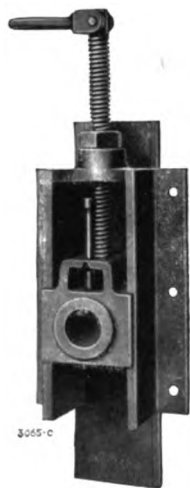
‡Size of wheels listed, permit of $\frac{3}{4}$ -inch for height of attachment back of buckets to center of chain.

Elevator Take-up Bearings

Boot Take-ups—Style A

Price List

For Wood Boots					For Steel Boots				
Shaft Diameter, Inches	List Price, Each	Length Adjustment, Inches	Bearing		Shaft Diameter, Inches	List Price, Each	Length Adjustment, Inches	Bearing	
			Length	Extension from Boot Side				Length	Extension from Boot Side
1 $\frac{1}{8}$ "	\$5.00	5	2 $\frac{3}{4}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{8}$ "	\$6.00	6	4 $\frac{1}{4}$ "	3 $\frac{1}{4}$ "
1 $\frac{1}{2}$ "	6.50	5	4 $\frac{1}{4}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{2}$ "	7.00	6	4 $\frac{1}{4}$ "	3 $\frac{1}{4}$ "
2 $\frac{3}{4}$ "	7.50	7 $\frac{1}{2}$ "	5	3 $\frac{3}{4}$ "	1 $\frac{5}{8}$ "	7.50	8	5	3 $\frac{3}{4}$ "
2 $\frac{7}{8}$ "	9.00	9	5	3 $\frac{1}{4}$ "	2 $\frac{1}{8}$ "	8.00	7 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	5 $\frac{3}{4}$ "
2 $\frac{15}{16}$ "	11.50	12	6	3 $\frac{9}{16}$ "	2 $\frac{1}{4}$ "	9.50	9	6 $\frac{3}{4}$ "	5 $\frac{3}{4}$ "
					2 $\frac{1}{2}$ "	11.50	12	6	4 $\frac{1}{8}$ "



Style A
Fig. T-561

Head Take-ups—Style F

Price List*

Shaft Diameter, Inches	List Price, per Pair	Length Bearings, Inches	Base to Center of Shaft, Inches	Vertical Adjustment, Inches	Base		Distance Between Centers of Bearings
					Width, Inches	Length, Inches	
2 $\frac{3}{8}$ "	\$30.00	6 $\frac{1}{2}$ "	20 $\frac{3}{4}$ "	9 $\frac{1}{2}$ "	6	33	30
2 $\frac{7}{8}$ "	31.30	7	20 $\frac{1}{2}$ "	9 $\frac{1}{4}$ "	6	33	32
2 $\frac{11}{16}$ "	34.60	7 $\frac{1}{2}$ "	21	10 $\frac{1}{16}$ "	6	36	34
2 $\frac{15}{16}$ "	37.00	8	21 $\frac{1}{8}$ "	9 $\frac{7}{8}$ "	6	36	36
3 $\frac{1}{8}$ "	41.00	8 $\frac{1}{2}$ "	22 $\frac{1}{8}$ "	11 $\frac{1}{4}$ "	7	39	40
3 $\frac{7}{8}$ "	45.60	9	22 $\frac{3}{8}$ "	10 $\frac{3}{4}$ "	7	39	44
3 $\frac{15}{16}$ "	68.80	10	27 $\frac{1}{8}$ "	12 $\frac{1}{2}$ "	9	37	48

*Price list is per pair of stands complete with bearings and adjustment chain but without shaft, collars, pulley or sprocket.



Style F
Fig. T-562

Head Take-ups—Style G

Style G is a head take-up designed essentially for heavy duty such as is required in very large or high elevators.

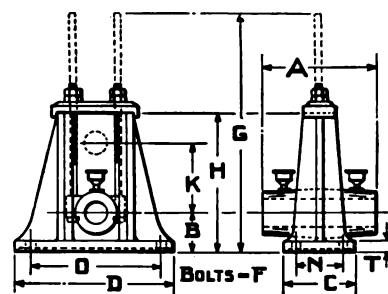


Fig. T-564



Style G
Fig. T-563

Price List

Shaft Inches	K Adjustment, Inches	List Prices	Dimensions in Inches								
			A	B	C	D	F	G	H	N	T
1 $\frac{1}{2}$ "	7 $\frac{1}{4}$ "	\$12.00	6 $\frac{1}{4}$ "	3	5 $\frac{1}{2}$ "	16	3 $\frac{1}{4}$ "	22 $\frac{3}{4}$ "	12 $\frac{1}{4}$ "	3	1
2 $\frac{7}{8}$ "	6 $\frac{1}{2}$ "	15.00	8 $\frac{1}{4}$ "	3 $\frac{5}{8}$ "	5 $\frac{1}{2}$ "	16	3 $\frac{1}{4}$ "	21 $\frac{7}{8}$ "	12 $\frac{1}{4}$ "	3	1
2 $\frac{15}{16}$ "	8 $\frac{1}{8}$ "	19.00	9 $\frac{1}{4}$ "	3 $\frac{13}{16}$ "	6 $\frac{1}{2}$ "	18	3 $\frac{1}{4}$ "	26 $\frac{1}{8}$ "	14 $\frac{1}{2}$ "	3 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "
3 $\frac{7}{8}$ "	8	25.00	10 $\frac{3}{4}$ "	4 $\frac{1}{8}$ "	6 $\frac{1}{2}$ "	18 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	25 $\frac{1}{4}$ "	15 $\frac{1}{8}$ "	3 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "
3 $\frac{15}{16}$ "	11 $\frac{3}{4}$ "	32.00	12 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	21	7 $\frac{1}{8}$ "	35 $\frac{3}{8}$ "	19 $\frac{5}{8}$ "	4	1 $\frac{1}{8}$ "

Standard Steel Elevator Buckets

Front View



Fig. T-565

Rear View

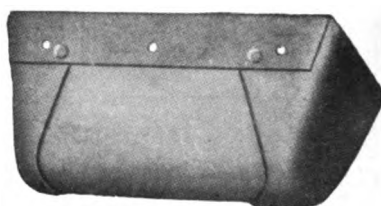


Fig. T-565A

Rear View



Fig. T-566A

Front View

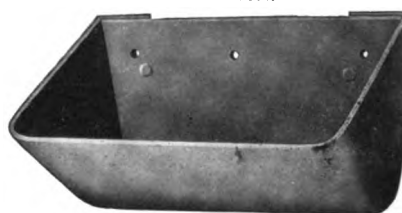


Fig. T-566

Standard Bucket Punching for Belts

Width of Buckets, Inches	Number of Holes for $\frac{1}{4}$ -inch Bolts In One Row	Width of Buckets, Inches	Number of Holes for $\frac{1}{4}$ -inch Bolts in 2 Rows Staggered
3-4-5-6	2	14-15-16	3 in Top Row 2 in Bottom Row 4 in Top Row 2 in Bottom Row 4 in Top Row 3 in Bottom Row
7-8-9-10	3	18-20-22	
11-12-13	4	24	

Holes for chain attachments are placed as best fits the bucket, unless otherwise ordered.

Holes for belts are equally spaced central on the back and near the top of the buckets. Reliance or Excelsior Bolts, page 214, are recommended for attaching buckets to belts.

Modified Forms of Standard Steel Buckets

Digger Edge



Fig. T-567

Sharp Tooth



Fig. T-568

Saw Tooth



Fig. T-569

Re-enforced Edge



Fig. T-570

Low Front



Fig. T-571

Hooded Back



Fig. T-572

High Back



Fig. T-573

Gravity Discharge



Fig. T-574

Re-enforced Back



Fig. T-575

Perforated



Fig. T-576

Wire Cloth Bucket



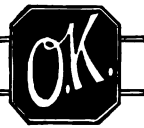
Fig. T-577

Crib Bucket



Fig. T-578

Prices quoted upon application.



Standard Steel Elevator Buckets

(Figs. T-563 and T-564)

Unless otherwise specified, U. S. Gauges of Steel are used in all Standard Buckets

Price List

Length by Projection from Belt	Gauge	List Price Each	Approx. Weight 100 Buckets, Lbs.	Capacity Bushels per Hour	Length by Projection from Belt	Gauge	List Price Each	Approx. Weight 100 Buckets, Lbs.	Capacity Bushels per Hour	Length by Projection from Belt	Gauge	List Price Each	Approx. Weight 100 Buckets, Lbs.	Capacity Bushels per Hour
3 x3	23	\$.10	28	87	11x6	18	\$.63	285	1342	14x7	18	\$.95	372	2226
16	.29		55		16	.98	360			16	1.30	450		
3½x3	23	.10	29	102	14	1.05	410			14	1.40	556		
16	.31		60		12	1.45	570			12	1.94	745		
4 x3	23	.15	30	116	10	1.79	710			10	2.39	965		
16	.35		65		8	2.12	890			8	2.82	1220		
4½x3	23	.15	32	131	6	2.44	1025			6	3.25	1440		
16	.39		70		18x6	18	.70	300	1464	16x7	18	1.33	416	2544
4 x3½	22	.15	45	159	16	1.03	380			16	1.35	500		
16	.38		82		14	1.11	435			14	1.46	612		
4½x3½	22	.15	48	179	12	1.53	600			12	2.01	815		
16	.40		90		10	1.89	750			10	2.48	1055		
5 x3½	22	.19	51	199	8	2.22	940			8	2.93	1340		
16	.43		104		6	2.56	1101			6	3.38	1580		
5 x4	22	.19	66	229	14x6	18	.80	340	1708	18x7	18	1.38	460	2862
16	.44		97		16	1.05	400			16	1.40	550		
5½x4	21	.22	69	251	14	1.13	474			14	1.51	668		
16	.48		116		12	1.56	660			12	2.09	885		
6 x4	21	.22	72	274	10	1.93	830			10	2.58	1145		
16	.50		132		8	2.28	1040			8	3.04	1460		
7 x4½	20	.30	110	500	6	2.63	1230			6	3.50	1720		
16	.53		134		18x6	18	.90	380	1952	20x7	18	1.40	504	3180
8 x5	19	.38	140	670	16	1.10	445			16	1.45	600		
16	.63		223		14	1.19	520			14	1.57	720		
9 x5	19	.40	155	754	12	1.64	725			12	2.16	955		
16	.75		245		10	2.02	910			10	2.67	1235		
10 x5½	19	.48	170	973	8	2.39	1145			8	3.15	1580		
16	.86		285		6	2.75	1350			6	3.63	1860		
10 x6	18	.91	340	1220	18x6	18	1.00	420	2195	16x8	18	1.40	475	3184
16	.98		385		16	1.15	490			16	1.60	570		
11x7	18	.85	305		14	1.24	580			14	1.73	710		
16	.91		340		12	1.71	785			12	2.38	970		
12x7	18	.90	320		10	2.12	1000			10	2.94	1225		
16	.98		385		8	2.50	1250			8	3.47	1520		
13x7	18	.95	335		6	2.88	1480			6	4.00	1800		
16	1.03		400		18x6	18	1.10	460	2440	18x8	18	1.50	525	3582
14x7	18	1.05	410		16	1.20	540			16	1.65	630		
16	1.11		435		14	1.30	630			14	1.78	770		
15x7	18	1.10	440		12	1.79	850			12	2.46	1050		
16	1.18		465		10	2.21	1100			10	3.03	1325		
16x7	18	1.20	480		8	2.60	1380			8	3.57	1650		
16	1.28		500		6	3.00	1625			6	4.13	1950		
17x7	18	1.25	520		18x6	18	1.16	356	1590	20x8	18	1.60	575	3980
16	1.32		540		16	1.25	444			16	1.70	690		
18x7	18	1.30	560		14	1.73	605			14	1.84	830		
16	1.38		600		12	2.13	785			12	2.53	1130		
19x7	18	1.35	630		10	2.52	980			10	3.13	1425		
16	1.43		670		8	2.90	1160			8	3.69	1790		
20x7	18	1.40	660		6	3.26	1425			6	4.25	2100		
16	1.48		700		18x6	18	1.28	400	1749	22x8	18	1.70	625	4378
21x7	18	1.45	720		16	1.32	472			16	1.80	750		
16	1.53		760		14	1.83	640			14	1.94	890		
22x7	18	1.50	750		12	2.25	830			12	2.68	1210		
16	1.58		800		10	2.66	1040			10	3.31	1525		
23x7	18	1.55	770		8	3.06	1225			8	3.96	1920		
16	1.63		820		6	3.42	1500			6	4.50	2250		
24x7	18	1.60	760		18x6	18	1.30	420	1908	24x8	18	1.80	675	4776
16	1.67		840		16	1.38	500			16	1.90	810		
25x7	18	1.65	780		14	1.90	675			14	2.05	950		
16	1.73		860		12	2.35	875			12	2.83	1300		
26x7	18	1.70	790		10	2.77	1100			10	3.50	1650		
16	1.79		880		8	3.19	1300			8	4.12	2050		
27x7	18	1.75	810							6	4.75	2400		

Bold face type indicates stock sizes.

The above listed capacities are per hour with backs spaced 12 inches apart and travelling 200 feet per minute. It is a good practise to place buckets about three projections apart and not less than 12 inches for any size bucket.

Malleable Iron Buckets



Style A—Fig. T-579

Standard bucket for general use.



Style AA—Fig. T-580

Heavily reinforced front edge and corners for handling gritty materials.



Style B—Fig. T-581

For inclined elevator service handling coarse materials.



Style C—Fig. T-582

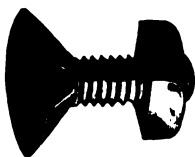
For handling materials which tend to stick and pack as clay, wet ores, sugar, etc.

These buckets of approved pattern and weight are smooth, seamless and strong, and afford a perfectly clean delivery of the material. They are especially adapted for handling ores, stone, phosphates, cement, coal and other gritty and abrasive materials. In ordering, state whether buckets are to be punched for flat belt or chain, and if for the latter give size and number of strands of chain and style of attachments.

Price List

Size of Bucket, Inches	Capacity Cubic Feet	Approx. Weight, Lbs.	List Price, Each	Size of Bucket, Inches	Capacity Cubic Feet	Approx. Weight, Lbs.	List Price, Each	Size of Bucket, Inches	Capacity Cubic Feet	Approx. Weight, Lbs.	List Price, Each
Style A				Style AA				Style B—Continued			
4 x 2½ x 3	.009	¾	\$.31	6x4x4½	.023	2¼	\$.60	8x3½x5	.038	3¼	\$.65
4½x3 x 3½	.012	7⁄8	.38	8x5x5½	.065	4	1.00	10x4 x5½	.066	4	1.10
5 x 3½x3½	.02	1½	.43	10x6x6½	.110	6¾	1.50	12x5½x7½	.101	7	1.65
6 x 4 x 4½	.023	2¼	.55	11x6x6½	.120	8	1.65	16x6½x9	.238	13½	2.60
7 x 4½x5	.047	3½	.76	12x6x6½	.140	8¾	1.80				
8 x 5 x 5½	.065	4½	.90	12x7x7½	.150	10½	2.10				
8 x 6 x 4½		5½	1.10	12x8x7		17½	3.10				
10 x 6 x 6½	.110	6½	1.45	14x6x6½	.203	12½	2.35				
10 x 7 x 5½		7	1.60	14x7x7½	.250	13½	2.45				
11 x 6 x 6½	.120	7	1.55	15x7x7½	.260	14	2.60				
12 x 6 x 6½	.140	7½	1.65	16x7x7½	.270	14½	2.85	6x4½x4		2¼	\$.70
12 x 7 x 7½	.150	9¾	1.90	16x8x7		18½	3.65	7x4½x4	.037	3	.85
14 x 7 x 7½	.250	12	2.20	18x8x8½	.380	22	4.10	8x4½x4	.048	3½	1.20
14 x 8 x 8½	.280	16¾	3.00	24x8x8½	.432	33½	5.30	10x5 x4	.057	5	1.35
15 x 7 x 7½	.260	13½	2.35					12x5 x4	.057	5	1.35
16 x 7 x 7½	.270	14	2.60					12x6 x6	.112	6¼	1.60
16 x 8 x 8½	.310	19	3.40					14x7 x5½		10¾	2.20
18 x 8 x 8½	.380	18	3.75					16x7 x5½	.157	11	2.40
18 x10 x10½	.609	30	5.85					18x8 x8	.290	14¼	3.25
				Style B				Style C			
				4x1½x2¼	.0035	1¼	\$.25				
				7x3½x5	.032	2	.58				

Elevator Bolts



Reliance
Fig. T-583



Excelsior
Fig. T-584



Button Head
Fig. T-585



Carriage Bolt
Fig. T-586

Price List per 100

Length, Inches	Excelsior Bolts, Diameter in Inches			Reliance and Button Head Bolts, Diam., Inches ¾ and 1	Carriage Bolts Diameter in Inches			
	¾ and 1	¾	¾		¾ and 1	¾	¾	¾
¾	\$2.20	\$3.00	\$4.00	\$2.20				
¾ and 1	2.30	3.00	4.00	2.30	\$1.00	\$1.40	\$1.90	\$3.25
1¼	2.40	3.20	4.30	2.40	1.00	1.40	1.90	3.25
1½	2.50	3.40	4.60	2.50	1.00	1.40	1.90	3.25
1¾	2.60	3.60	4.90	2.60	1.10	1.52	2.06	3.25
2	2.70	3.80	5.20	2.70	1.10	1.52	2.06	3.25
2¼					1.20	1.64	2.22	3.25
2½					1.20	1.64	2.22	3.25
3					1.30	1.76	2.38	3.53
3½					1.40	1.88	2.54	3.81
4					1.50	2.00	2.70	4.00

Steel Buckets

Continuous Type

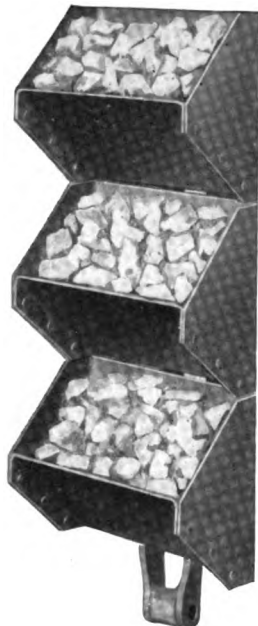


Fig. T-587

With this type of bucket the material is delivered in a continuous flow which insures a large capacity at comparatively slow speeds. This reduces the wear upon buckets and chains and gives long life to the equipment.

These buckets are made in various sizes and gauges and are recommended for handling crushed stone, sand, gravel, coal, etc.

Steel Buckets are of the continuous flanged back type, the flanges serving as sides of a discharge chute for the bucket following. They are made in two styles B and D.

Style B is constructed with the front of bucket at an angle of 60 degrees to the back and is most suitable for use in elevators that incline 30 degrees or more from the vertical.

For elevators that are vertical or incline less than 30 degrees from vertical, style D is most suitable. In this style the front of the bucket is built at an angle of 50 degrees with the back.

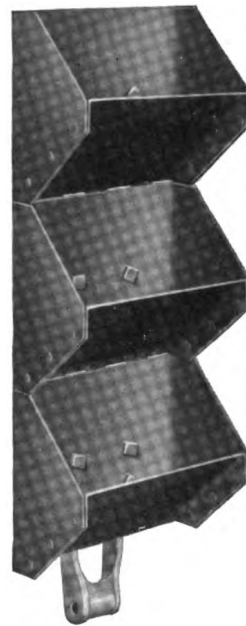


Fig. T-588

Price List

Length Across Belt, Inches	Projection from Belt, Inches	Length With Belt, Inches	Gauge of Steel						Thickness in Inches	
			18	16	14	12	10	8	3/16	1/4
7	4	6	\$.47	\$.50	\$.52	\$.59	\$.65			
8	5	8	.54	.56	.61	.70	.79			
10	5	8	.59	.61	.65	.77	.89			
10	5 1/2	9	.61	.65	.69	.79	.95			
10	6	7 3/4	.65	.70	.75	.88	1.06			
12	6	12		.77	.88	1.04	1.24	\$1.40		
12	7	12		.80	1.00	1.18	1.40	1.55	\$1.75	
12	8	12				1.31	1.58	1.75	1.95	
14	8	12				1.37	1.69	1.89	2.10	
14	9	12				1.49	1.87	2.09	2.30	
16	8	12				1.49	1.82	2.03	2.25	
16	9	12				1.59	2.00	2.25	2.50	
18	8	12				1.58	1.91	2.14	2.40	
18	9	12				1.71	2.16	2.43	2.70	
20	8	12				1.71	2.12	2.36	2.60	
20	9	12				1.87	2.34	2.66	2.93	
20	10	14				2.26	2.75	3.04	3.35	
22	8	12				1.82	2.25	2.59	2.85	
22	9	12				2.03	2.50	2.84	3.13	
22	10	12				2.31	2.72	3.06	3.35	
22	10	14				2.46	2.90	3.24	3.58	
22	10	16					3.13	3.44	3.80	\$4.70
24	8	12				1.96	2.43	2.77	3.06	
24	9	12				2.18	2.66	3.02	3.35	
24	10	14				2.67	3.11	3.47	3.85	
24	10	16					3.26	3.60	4.01	5.06
24	12	16						4.07	4.61	5.69
28	10	16						4.05	4.59	5.76
28	12	16						4.68	5.18	6.53
28	14	16						5.13	5.92	7.52
30	10	16						4.37	4.93	6.17
30	12	16						4.91	5.51	6.93
30	14	16						5.42	6.21	8.06
32	14	16						5.72	6.62	8.64
34	14	16						5.99	7.07	9.20
36	14	16						6.28	7.52	9.77

Belt Conveyors

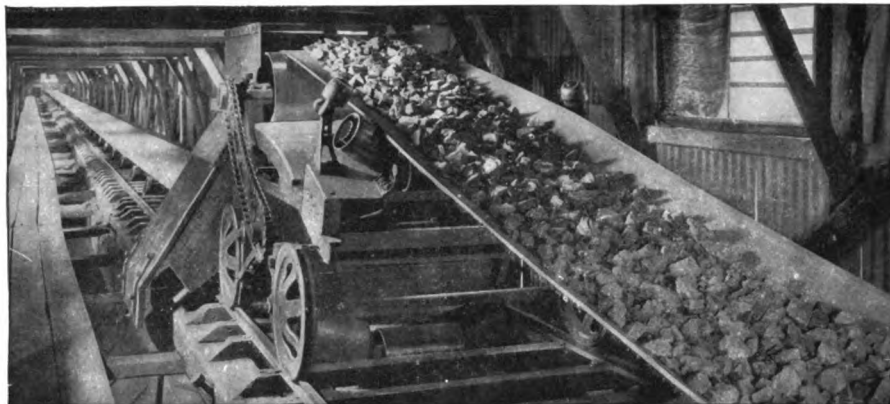


Fig. T-589



Fig. T-590

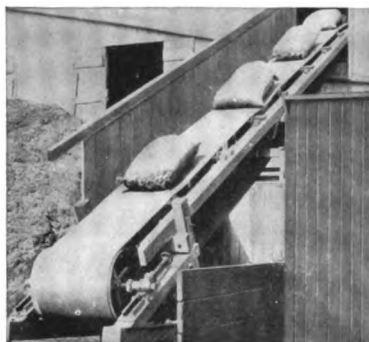


Fig. T-591

Troughed belts are most commonly and economically used in conveyors of comparatively long centers for the handling of cereals, coal, ores, and similar bulk materials. Shorter lengths of flat or troughed belts at moderate speeds are well adapted, and economically used for handling packages, bags, barrels, boxes, and general merchandise as well as for picking and sorting conveyor service.

The size of loose bulk materials determines the width of the conveyor belt, independent of the amount of the material to be handled. Belts will not satisfactorily handle plastically sticky materials, but semi-adhesive substances may be successfully cleaned from belts by specially designed rotating brushes. Materials hotter than 140 to 150 degrees F. rapidly deteriorate rubber belts, but may be successfully carried upon specially designed belts.

Loose bulk materials, except where undue breakage is to be considered, should be carried at such speeds as will maintain the full capacity of the belt. For full capacity and maximum advisable speeds, see following table.

The proper loading of bulk materials, especially of a gritty or abrasive nature, is in the direction of the travel of the belt at a flowing speed as near equal to the speed of the belt as it is possible to obtain in the design of loading chutes, hoppers or bins.



Fig. T-592



Fig. T-593

Belt Conveyor Data

Width Belt, Inches	Size Material, Inches		Spacing of Carriers in Feet.†	**Full Capacities in Cubic Feet per Hour at 100 Ft. Travel			Max. Advisable Speed Feet per Min.	Width Belt, Inches	Size Material, Inches		Spacing of Carriers in Feet†	**Full Capacities in Cubic Feet per Hour at 100 Ft. Travel			Max. Advisable Speed, Feet per Min.
	Uniform or Average Size	When Size is not uniform		For Flat Belt Carrier	For 2 Pulley Carriers	For 3 or 5 Pulley Carriers			Uniform or Average Size	When Size is not uniform		For Flat Belt Carrier	For 2 Pulley Carriers	For 3 or 5 Pulley Carriers	
12	1½	2	5	216	360	504	300	24	4½	8	4	864	1440	2016	400
14	2	2½	5	294	490	686	300	30	7	14	4	1350		3150	450
16	2½	3	5	384	640	896	300	36	9	18	3½	1944		4536	500
18	3	4	4½	486	810	1134	350	42	11	20		2646		6174	550
20	3½	5	4½	600	1000	1400	350	48	14	24		3456		8064	600

*Maximum size pieces not to exceed 10 per cent of the amount of material handled. **Full capacities are based upon a uniform and continuous flow of material throughout the unit of time specified. †Space carriers 6 inches closer than listed for high speed and heavy loads, spacing not listed given on statement of requirements. Return idlers generally spaced 10 to 12 feet apart. The values in the above table are not given as specific rules, but as guides in general practice wherein there are often necessary and acceptable variations.

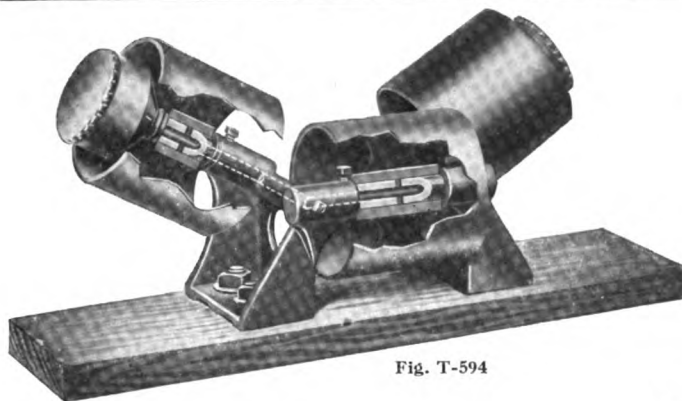


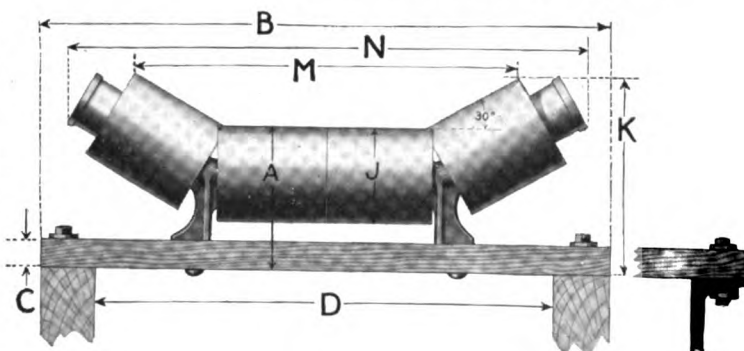
Fig. T-594

Three-Pulley Troughing Belt Carriers

These carriers are self-oiling, exceedingly strong and light in weight. The feature of overlapping the pulleys is an advantage in that it prevents the belt from cutting.

To insure the belt running true and central, it should always approach the carrier from the side upon which the horizontal pulley is placed.

Grease is supplied to the middle pulley through the passage-way from the lower ends of the outside pulley supports to both ends of the middle pulley, as illustrated. A complete filling of the grease passages when first installed, and an occasional turn of the cups insures good lubrication.



Price List

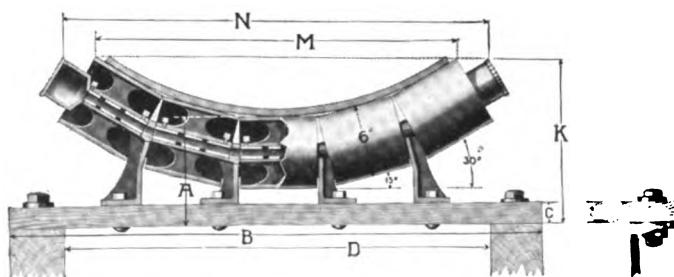
Width of Belt, Inches	List Prices	Approx. Weight with Board, Pounds	Dimensions in Inches							
			A	B	C	D	J	K	M	N
14	\$6.75	31	7 $\frac{3}{4}$	24	1 $\frac{1}{4}$	20	5	9 $\frac{5}{8}$	14	20 $\frac{1}{2}$
16	7.00	33	7 $\frac{3}{4}$	26	1 $\frac{1}{4}$	22	5	10 $\frac{1}{8}$	15 $\frac{3}{4}$	22 $\frac{1}{4}$
18	9.50	44	8 $\frac{3}{4}$	30	1 $\frac{1}{4}$	24	6	11 $\frac{1}{8}$	17 $\frac{1}{2}$	26 $\frac{3}{4}$
20	10.25	49	8 $\frac{3}{4}$	32	1 $\frac{1}{4}$	26	6	11 $\frac{1}{8}$	19 $\frac{1}{2}$	28 $\frac{3}{4}$
24		55	8 $\frac{3}{4}$	36	1 $\frac{1}{4}$	30	6	12 $\frac{1}{8}$	21 $\frac{1}{2}$	33
30		65	8 $\frac{3}{4}$	44	1 $\frac{1}{4}$	38	6	12 $\frac{5}{8}$	30 $\frac{1}{2}$	39 $\frac{1}{4}$
36		76	8 $\frac{3}{4}$	50	1 $\frac{1}{4}$	44	6	13 $\frac{1}{4}$	35 $\frac{1}{2}$	44 $\frac{1}{2}$
42		90	8 $\frac{3}{4}$	56	1 $\frac{1}{4}$	50	6	13 $\frac{1}{4}$	42 $\frac{1}{2}$	51 $\frac{1}{4}$
48		99	8 $\frac{3}{4}$	62	1 $\frac{1}{4}$	56	6	13 $\frac{1}{4}$	48 $\frac{1}{2}$	57 $\frac{1}{4}$

List prices include board and grease cups. Steel base plates are furnished extra.

Five-Pulley Troughing Belt Carriers

These carriers embody all the high qualities of the three-pulley carrier, and in addition permit a closer conformity to the natural troughing effect of the belt for carrying coal, sand, crushed stone or other heavy materials.

Pulleys are mounted in line upon hollow renewable steel spindles connected to four rigid supporting stands. These spindles serve as a continuous tube through which grease is supplied to all pulleys.



Price List

Fig. T-595

Width of Belt, Inches	List Prices	Approximate Weight with Board, Pounds	Dimensions in Inches						
			A	B	C	D	K	M	N
24	\$11.50	70	8 $\frac{7}{8}$	36	1 $\frac{1}{4}$	30	12 $\frac{1}{4}$	24 $\frac{1}{2}$	33 $\frac{3}{4}$
30	13.00	82	8 $\frac{7}{8}$	44	1 $\frac{1}{4}$	38	12 $\frac{7}{8}$	30	39 $\frac{1}{4}$
36	15.50	99	8 $\frac{7}{8}$	50	1 $\frac{1}{4}$	44	13 $\frac{3}{8}$	35 $\frac{3}{4}$	45
42	18.50		8 $\frac{7}{8}$	56	1 $\frac{1}{4}$	50	13 $\frac{3}{8}$	41 $\frac{1}{8}$	50 $\frac{1}{2}$
48	21.00		8 $\frac{7}{8}$	62	1 $\frac{1}{4}$	56	15 $\frac{1}{4}$	47	55 $\frac{3}{4}$

List prices include board and grease cups. Steel base plates are furnished at extra cost.

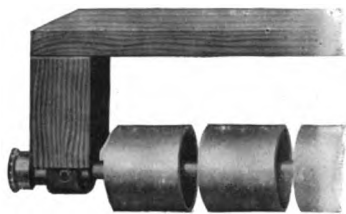


Fig. T-596
Bottom-hanging Swivel-bearing



Fig. T-599
Bottom Hanger



Fig. T-600
Swivel-bearing for both
Bottom and Side Hangers

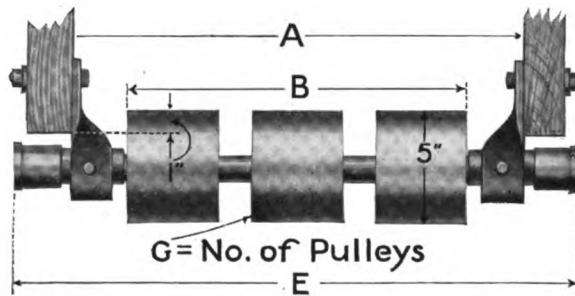


Fig. T-598

Price List

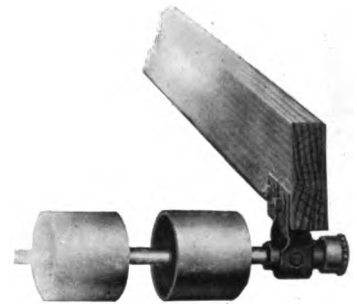


Fig. T-597
Side-hanging Swivel-bearing



Fig. T-601
Side Hanger

Width of Belt, Inches	List Price, Each	Approx. Weight, Lbs.	Dimensions in Inches				
			For Both Side and Bottom Hangers		E For Side Hanger	E For Bottom Hanger	G
			A	B			
12	\$4.25	22	18	13	22 1/4	26	3
14	4.30	23	20	15	24 1/4	28	3
16	4.35	23	22	17	26 1/4	30	3
18	5.10	28	24	19	28 1/4	32 1/2	4
20	5.15	29	26	21	30 1/4	34 1/2	4
24	6.00	38	30	25	34 1/4	38 1/2	4
30	7.00	47	38	31	42 1/4	46 1/2	5
36	7.40	48	44	37	48 1/4	52 1/2	5
42	8.00	56	50	43	54 1/4	58 1/2	6
48	9.00	58	56	49	60 1/4	64 1/2	6

Combination Carrying and Return Idlers With Stands for Flat Belts

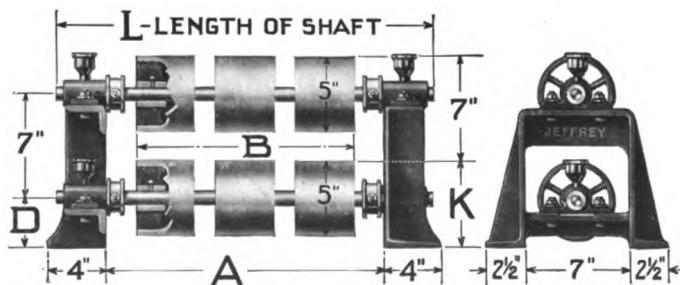


Fig. T-602

Price List

Width of Belt, Inches	List Price*	Approximate Weight, Pounds†	Dimensions in Inches				
			A	B	D	K	L
12	\$13.35	63	17 1/4	13	3 1/2	5 1/2	24
14	13.40	64	19 1/4	15	3 1/2	5 1/2	26
16	14.00	64	21 1/4	17	3 1/2	5 1/2	28
18	15.50	72	23 3/4	19	3 1/2	5 1/2	30 1/2
20	15.60	72	25 3/4	21	3 1/2	5 1/2	32 1/2
24	18.15	83	29 3/4	25	3 1/2	5 1/2	37 1/2
30	20.65	94	37 3/4	31	3 1/2	5 1/2	45 1/2
36	20.95	95	43 3/4	37	3 1/2	5 1/2	51 1/2
42	23.40	105	49 3/4	43	3 1/2	5 1/2	57 1/2
48	23.70	107	55 3/4	49	3 1/2	5 1/2	63 1/2

*For price of combination carrier without return idler, deduct price for one standard carrier idler as listed above. †Complete as illustrated.

Standard Carriers for Flat Belts

Carriers including bearings may be used for either carrier or return idler service, by mounting them on separate wood stringers placed above each other, or upon the top and bottom of one pair of stringers. See also combination stands, as illustrated (Fig. T-602), where stringers are not used.

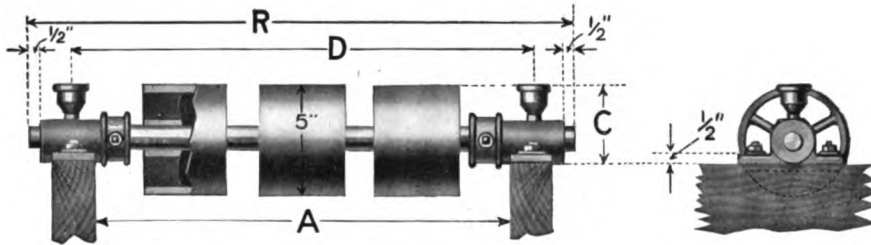


Fig. T-603

Price List

Width of Belt, Inches	List Price	Approximate Weight, Pounds†	Dimensions in Inches				Width of Belt, Inches	List Price	Approximate Weight, Pounds†	Dimensions in Inches			
			A	C	D	R				A	C	D	R
12	\$5.20	34	18	3 3/8	20	24	24	\$7.60	54	30	3 5/8	32 1/2	37 1/2
14	5.20	35	20	3 3/8	22	26	30	8.85	64	38	3 3/8	40 1/2	45 1/2
16	5.50	35	22	3 3/8	24	28	36	9.00	66	44	3 5/8	46 1/2	51 1/2
18	6.25	43	24	3 3/8	26 1/2	30 1/2	42	10.20	76	50	3 5/8	52 1/2	57 1/2
20	6.30	43	26	3 3/8	28 1/2	32 1/2	48	10.35	77	56	3 5/8	58 1/2	63 1/2

Belt Conveyor Guide Pulleys

Designed to permit a minimum over-all width of conveyor.

The curved ends enable a traveling tripper to raise and lower the belt to and from the carriers without injury to the edge of the belt. Price includes board and grease cups. Steel plates are furnished extra.

Price List

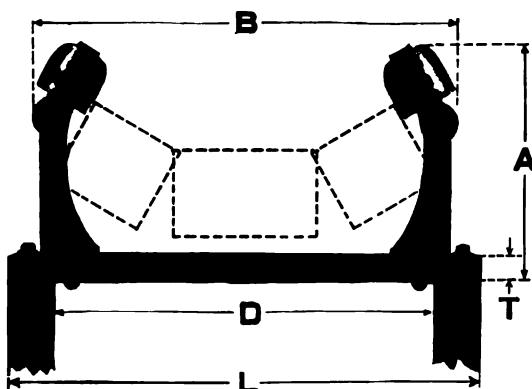


Fig. T-604

Width of Belt, Inches	List Price, Pair	Approximate Weight with Board, Pounds	Dimensions in Inches				
			A	B	D	L	T
For use with Three-pulley Carriers (Figs. T-594)							
14	\$5.85	21.0	13 ³ / ₄	22 ³ / ₄	20	24	1 ¹ / ₄
16	5.85	21.5	13 ³ / ₄	25	22	26	1 ¹ / ₄
18	5.90	23.0	15 ³ / ₄	26 ¹ / ₄	24	30	1 ¹ / ₄
20	5.90	25.0	15 ³ / ₄	28 ¹ / ₂	36	32	1 ¹ / ₄
24	6.00	25.8	16 ¹ / ₄	33	30	36	1 ⁵ / ₈
30	7.10	27.5	16 ¹ / ₄	39 ³ / ₄	38	44	1 ⁵ / ₈
For use with Five-pulley Carriers (Fig. T-595)							
24	\$6.35	25.8	16 ¹ / ₄	33 ¹ / ₄	30	36	1 ⁵ / ₈
30	7.50	30.5	16 ³ / ₄	37	38	44	1 ⁵ / ₈
36	7.70	35.0	17 ¹ / ₄	43 ³ / ₄	44	50	1 ⁵ / ₈

Hand Propelled Belt Trippers

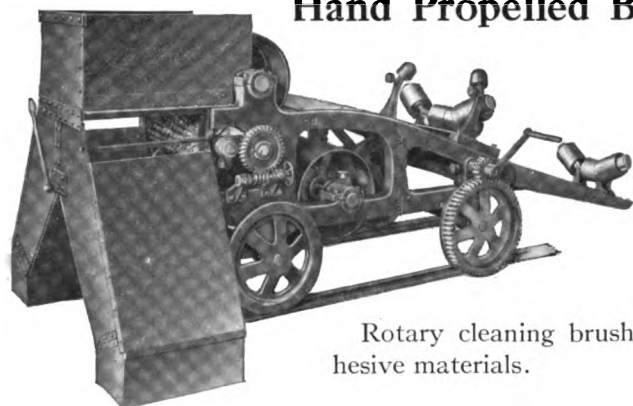


Fig. T-605

Designed to discharge at numerous fixed points. Trippers of this type can be moved along track to any point by means of a crank handle and pinion engaging a gear on the traction wheel, and are then secured in position by means of a hand clamp on supporting rail.

Rotary cleaning brushes can be supplied for belts handling adhesive materials.

Price List

Width of Belt, Inches	List Price with Spout, but without Trailer or Brush	Approximate Weight, Lbs.	Add for Trailer with Idler		Additional List Prices for Brush Device
			List Price	Approximate Weight, Lbs.	
14	\$430.00	2625	\$17.00	122	\$110.05
16	437.00	2650	17.75	125	111.75
18	451.00	2700	18.70	131	113.45
20	458.00	2800	19.45	135	115.15
24	483.00	2900	20.60	155	118.55
30	515.00	3100	22.05	180	123.65

Self-Propelled Belt Trippers

These trippers are equipped with trailers and idlers for belts handling heavy loads and can be readily changed from automatic to hand reversing by the removal of the trip lever mechanism. They are designed to distribute the material in long piles or bins.

The tripper can be set to any desired length of run. It travels back and forth on the track between two fixed points, automatically reversing and discharging its load as it moves along, or can be made stationary, permitting it to discharge at any fixed point in its run.

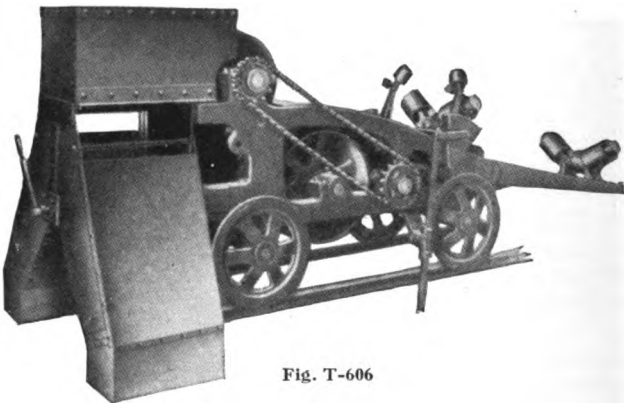
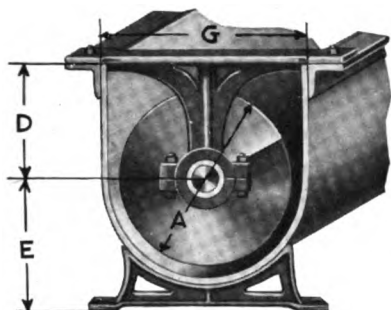


Fig. T-606

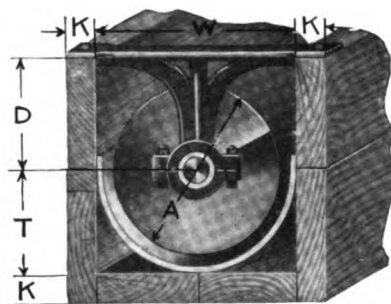
Price List

Width of Belt, Inches	Self-Propelled Hand-Reversing without Trailer		Add for Automatic Reverse		Add for Trailer with Idlers		Add for Brush Device with Standard Brush
	List Prices	Approximate Weight, Pounds	List Prices	Approximate Weight, Pounds	List Prices	Approximate Weight, Pounds	List Prices
14	\$656.00	3530	\$15.00	100	\$17.00	122	\$110.05
16	662.00	3570	15.00	100	17.75	125	111.75
18	704.00	3650	15.00	100	18.70	131	113.45
20	714.00	3820	15.00	100	19.45	135	115.15
24	745.00	4030	15.00	100	20.60	155	118.55
30	788.00	4280	15.00	100	22.05	180	123.65
36	820.00	4530	15.00	100	24.00	210	128.75

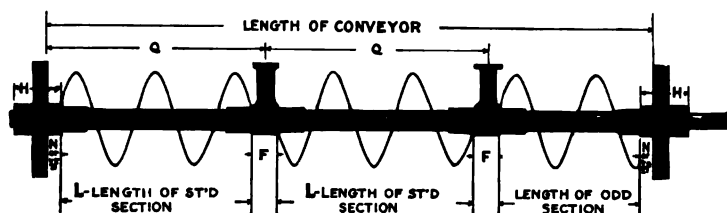
Steel Spiral Conveyors



Steel Trough

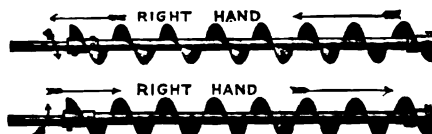
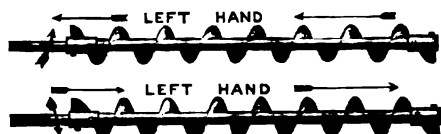


Wood Trough



General Dimensions

Diameter Conveyor A	Diameter Pipe B	D	E	F	G	H	K	L	N	Q	T	W
3	1	2 $\frac{3}{4}$	2 $\frac{3}{4}$	1 $\frac{1}{2}$	4	2	$\frac{7}{8}$	7'-10 $\frac{1}{2}$ "	$\frac{3}{4}$	8'-0"	2	4
4	1	3 $\frac{3}{8}$	3 $\frac{3}{8}$	1 $\frac{1}{2}$	5	2	$\frac{7}{8}$	7'-10 $\frac{1}{2}$ "	$\frac{3}{4}$	8'-0"	2 $\frac{1}{2}$	5
5	1 $\frac{1}{2}$	4 $\frac{1}{8}$	4 $\frac{1}{4}$	2	6	3	$\frac{7}{8}$	9'-10"	1	10'-0"	3	6
6	1 $\frac{1}{2}$	4 $\frac{1}{2}$	5	2	7	3	$\frac{7}{8}$	9'-10"	1	10'-0"	3 $\frac{1}{2}$	7
6	2	4 $\frac{1}{2}$	5	2	7	4	$\frac{7}{8}$	11'-10"	1	12'-0"	3 $\frac{1}{2}$	7
7	1 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2	8	3	$\frac{7}{8}$	9'-10"	1	10'-0"	4	8
8	1 $\frac{1}{2}$	5 $\frac{3}{4}$	6	2	9	3	1 $\frac{1}{4}$	9'-10"	1	10'-0"	4 $\frac{1}{2}$	9
9	1 $\frac{1}{2}$	6 $\frac{1}{4}$	6 $\frac{1}{2}$	2	10	3	1 $\frac{1}{4}$	9'-10"	1	10'-0"	5	10
9	2	6 $\frac{1}{4}$	6 $\frac{1}{2}$	2	10	4	1 $\frac{1}{4}$	11'-10"	1	12'-0"	5	10
9	2 $\frac{7}{16}$	6 $\frac{1}{4}$	6 $\frac{1}{2}$	2 $\frac{1}{2}$	10	5	1 $\frac{1}{4}$	11'-9 $\frac{1}{2}$ "	1 $\frac{1}{4}$	12'-0"	5	10
10	1 $\frac{1}{2}$	7	7 $\frac{9}{16}$	2	11	3	1 $\frac{1}{4}$	9'-10"	1	10'-0"	5 $\frac{1}{2}$	11
10	2	7	7 $\frac{9}{16}$	2	11	4	1 $\frac{1}{4}$	11'-10"	1	12'-0"	5 $\frac{1}{2}$	11
10	2 $\frac{7}{16}$	7	7 $\frac{9}{16}$	2 $\frac{1}{2}$	11	5	1 $\frac{1}{4}$	11'-9 $\frac{1}{2}$ "	1 $\frac{1}{4}$	12'-0"	5 $\frac{1}{2}$	11
12	2	9	9	2	13 $\frac{1}{4}$	4	1 $\frac{3}{4}$	11'-10"	1	12'-0"	6 $\frac{1}{2}$	13
12	2 $\frac{7}{16}$	9	9	2 $\frac{1}{2}$	13 $\frac{1}{4}$	5	1 $\frac{3}{4}$	11'-9 $\frac{1}{2}$ "	1 $\frac{1}{4}$	12'-0"	6 $\frac{1}{2}$	13
12	3	9	9	3	13 $\frac{1}{4}$	6	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	6 $\frac{1}{2}$	13
14	2	9 $\frac{1}{4}$	9 $\frac{3}{8}$	2	15 $\frac{1}{2}$	4	1 $\frac{3}{4}$	11'-10"	1	12'-0"	7 $\frac{1}{2}$	15
14	2 $\frac{7}{16}$	9 $\frac{1}{4}$	9 $\frac{3}{8}$	2 $\frac{1}{2}$	15 $\frac{1}{2}$	5	1 $\frac{3}{4}$	11'-9 $\frac{1}{2}$ "	1 $\frac{1}{4}$	12'-0"	7 $\frac{1}{2}$	15
14	3	9 $\frac{1}{4}$	9 $\frac{3}{8}$	3	15 $\frac{1}{2}$	6	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	7 $\frac{1}{2}$	15
16	2	11	10 $\frac{1}{2}$	2	17 $\frac{1}{2}$	4	1 $\frac{3}{4}$	11'-10"	1	12'-0"	8 $\frac{1}{2}$	17
16	3	11	10 $\frac{1}{2}$	3	17 $\frac{1}{2}$	6	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	8 $\frac{1}{2}$	17
16	4	11	10 $\frac{1}{2}$	3	17 $\frac{1}{2}$	8	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	8 $\frac{1}{2}$	17
18	3	12 $\frac{1}{2}$	11 $\frac{1}{2}$	3	19 $\frac{1}{2}$	6	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	9 $\frac{1}{2}$	19
20	3	12 $\frac{1}{2}$	12 $\frac{1}{2}$	3	21 $\frac{1}{2}$	6	1 $\frac{3}{4}$	11'-9"	1 $\frac{1}{2}$	12'-0"	10 $\frac{1}{2}$	21



Steel Spiral Conveyors

Sizes and kinds of Materials with Capacities and Speeds.

Diameter Conveyor, Inches	Diameter Pipe, Inches	Size Material, Inches		Kind Material—Gauge Flights—Max. Speeds—Capacities†								
		Uniform or Average Size *	When Size is not Uniform †	Light Non-Abrasive Material such as Grain			Heavy Non-Abrasive Material such as Coal			Heavy Abrasive Material such as Sand and Ashes		
				Gauge Flights	Max. Speed R. P. M.	Max. ‡ Capacity Cu. Ft. Per Hr.	Gauge Flights	Max. Speed R. P. M.	Max. ‡ Capacity Cu. Ft. per Hr.	Gauge Flights	Max. Speed R. P. M.	Max. ‡ Capacity Cu. Ft. per Hr.
3	1	1/4	3/4	16	250	74	1/4	125	37			
4	1	3/8	1	16	220	171	1/4	110	86	3/8	90	46
5	1 1/2	1/2	1 1/4	16	210	304	1/4	105	152	3/8	85	83
6	1 1/2	5/8	1 1/2	16	200	528	1/4	100	264	3/8	80	138
6	2	5/8	1 1/2	16	200	496	1/4	100	248	3/8	80	134
7	1 1/2	5/8	1 3/4	14	190	821	1/4	95	410	3/8	75	205
8	1 1/2	3/4	2	14	180	1183	1/4	90	591	3/8	75	305
9	1 1/2	3/4	2 1/4	14	175	1659	1/4	85	806			
9	2	3/4	2 1/4	14	175	1619	1/4	85	786	1/4	70	405
9	2 7/16	3/4	2 1/4	14	175	1563	1/4	85	759	1/4	70	405
10	1 1/2	7/8	2 1/2	12	160	2096	1/4	80	1048			
10	2	7/8	2 1/2	12	160	2064	3/8	80	1032	1/4	65	517
10	2 7/16	7/8	2 1/2	12	160	2000	3/8	80	1000	1/4	65	517
12	2	1	3	12	150	3390	3/8	75	1695			
12	2 7/16	1	3	12	150	3330	3/8	75	1665	1/4	60	822
12	3	1	3	12	150	3240	3/8	75	1620	3/8	60	822
14	2	1 1/8	3 1/2	10	140	4074	3/8	70	2541			
14	2 7/16	1 1/8	3 1/2	10	140	4018						
14	3	1 1/8	3 1/2	10	140	3934	3/8	70	2457	3/8	55	1199
16	3	1 3/8	4	10	130	6916	1/2	65	3458	3/8	50	1630
16	4	1 3/8	4				1/2	65	3341	3/8	50	1630
18	3	1 1/2	4 1/2	10	120	9180	1/2	60	4590	3/8	45	2083
20	3	1 3/4	5	3/4	115	12155	1/2	55	5813	3/8	45	2862

*About 90 per cent of material of maximum uniform size listed. †Not more than 10 per cent of the unsized material to be of the maximum unsized listed. ‡Capacity given is at maximum R. P. M.; uniform and continuous flow of material for one hour. Other capacities directly proportional to speed. For adhesive materials consider the use of ribbon conveyor. Prices quoted upon application. For wet gritty materials such as ashes consider the use of cast-iron spiral conveyor.

NOTE—The values in the above table are not given as specific rules but as guides in general practice wherein there are acceptable variations, depending upon the specific nature of the material handled, nature of the service, power consumption, and the life of the conveyor.

Sectional Flight Steel Spiral Conveyors



Fig. T-607

Made of a series of single spiral turns riveted together and securely mounted on a hollow shaft.

Price List With Standard Gauge Flights*

Diameter Conveyor, Inches	Gauge of Center Flight	Size Pipe, Inside, Inches	Size Coupling, Inches	Approx. Pitch of Flights, Inches	Standard Length Center to Center of Hangers, Feet	*List Price, Per Foot	Deduction Per Foot of Conveyor if Fittings Are Not Furnished			
							Lining	Hangers	Coupling	Total
4	18	1	1	4	8	\$1.75	\$.06	\$.06	\$.04	\$.16
6	16	1 1/2	1 1/2	6	10	2.00	.09	.07	.06	.22
9	14	1 1/2	1 1/2	9	10	2.50	.15	.09	.06	.30
12	12	2	2	12	12	3.50	.20	.14	.09	.43
14	10	2 1/2	2 7/16	12	12	5.00	.31	.20	.11	.62
16	10	3	3	16	12	6.25	.39	.28	.15	.82
18	10	3	3	18	12	7.50	.46	.31	.15	.92

*List Price for galvanized conveyor will be quoted on application. List prices include standard gauge curved lining, one No. 13 hanger and one coupling with each standard (full length) section. When lengths shorter than standard are ordered, no fittings will be furnished, unless specified, and an extra charge is made.



Sectional Flight Steel Spiral Conveyors

*Price List with Heavy Gauge Flights

Diameter Conveyor, Inches	Thickness of Flights, Inches	Size Pipe Inside	Size Coupling	Approx. Pitch of Flights, Inches	Standard Length, Center to Center of Hanger, Feet	*List Price, per Foot	Add for Extra Heavy Pipe per Foot of Conveyor	Deductions per Foot of Conveyor if Fittings are not Furnished		
								Hangers	Couplings	Total
4	10Ga	1	1	4	8	\$2.75	\$.35	\$.08	\$.06	\$.14
4	3/8	1	1	4	8	3.00	.35	.08	.06	.14
4	1/2	1	1	4	8	3.50	.35	.08	.06	.14
4	3/4	1 1/2	1 1/2	4	8	3.75	.40	.08	.06	.14
6	10Ga	1 1/2	1 1/2	6	10	3.00	.50	.10	.08	.18
6	3/8	1 1/2	1 1/2	6	10	3.50	.50	.10	.08	.18
6	1/2	1 1/2	1 1/2	6	10	4.00	.50	.10	.08	.18
6	3/4	2	1 1/2	6	10	5.80	.60	.10	.08	.18
9	10Ga	1 1/2	1 1/2	9	10	3.75	.50	.12	.08	.20
9	3/8	2	1 1/2	9	10	4.25	.60	.14	.12	.26
9	10Ga	1 1/2	1 1/2	9	10	4.75	.50	.12	.08	.20
9	3/8	2	2	9	10	5.50	.60	.14	.12	.26
9	1/2	1 1/2	1 1/2	9	10	5.50	.50	.12	.08	.20
9	3/4	2	2	9	10	6.25	.60	.14	.12	.26
12	3/8	2	2	12	12	8.00	.60	.14	.12	.26
12	1/2	2	2	12	12	9.00	.60	.20	.11	.31
12	3/4	2	2	12	12	7.00	.60	.20	.11	.31
12	1	3	3	12	12	8.50	1.20	.29	.22	.51
12	1 1/4	3	3	12	12	11.50	1.20	.29	.22	.51
14	3/8	2 1/2	2 1/2	12	12	7.50	.90	.29	.16	.45
14	1/2	2 1/2	2 1/2	12	12	8.50	.90	.29	.16	.45
14	3/4	3	3	16	12	13.00	1.20	.35	.22	.57
16	3/8	3	3	16	12	9.00	1.20	.40	.22	.62
16	1/2	3	3	16	12	10.00	1.20	.40	.22	.62
16	3/4	3	3	16	12	15.00	1.20	.40	.22	.62
16	1	4	3	16	12	20.00	2.35	.40	.22	.62
18	3/8	3	3	18	12	12.50	1.20	.44	.22	.66
18	1/2	3	3	18	12	14.00	1.20	.44	.22	.66
18	3/4	3	3	18	12	20.00	1.20	.44	.22	.66
18	1	4	3	18	12	27.00	2.35	.44	.22	.66
20	3/8	3	3	18	12	14.00	1.20	.53	.22	.75
20	1/2	3	3	18	12	16.50	1.20	.53	.22	.75
20	3/4	3	3	18	12	24.00	1.20	.53	.22	.75
20	1	4	3	18	12	32.00	2.35	.53	.22	.75

*List prices include one No. 13 or No. 17 hanger and coupling with each standard (full length) section. When lengths shorter than standard are ordered, no fittings are furnished unless specified, and an extra charge is made. (No lining is furnished with heavy conveyor.)

Steel Helicoid Conveyors

Continuous Flights



Fig. T-608

Standard Gauge Flights

Diameter			Thickness		Length, Center to Center of Hanger	*List Price, per Foot	Deduction per Foot of Conveyor if Fittings not Furnished			
Conveyor	Pipe	Coupling	Next to Pipe	Outer Edge			Lining	Hanger	Coupling	Total
4	1 1/4	1	.125	.05	8	\$1.75	\$.06	\$.06	\$.04	\$.16
6	1 3/4	1 1/2	.125	.063	10	2.00	.09	.07	.06	.22
9	2	1 1/2	.1875	.10	10	2.50	.15	.09	.06	.30
10	2 1/2	1 1/2	.1875	.093	10	3.00	.16	.12	.06	.34
12	3	2	.25	.12	12	3.50	.20	.14	.09	.43
14	3 1/2	2 1/2	.25	.12	12	5.00	.31	.20	.11	.62
13	3 1/2	3	.3125	.17	12	6.25	.39	.28	.15	.82

*Prices for galvanized conveyor will be quoted on application. List prices include standard gauge curved lining, one No. 13 hanger and one coupling with each standard (full length) section. When lengths shorter than standard are ordered no fittings are furnished, unless specified, and an extra charge is made.

Extra Heavy Gauge Flights

Diameter			Thickness		Length, Center to Center of Hanger	*List Price per Foot	Add for Extra Heavy Pipe per Foot of Conveyor	Deduction per Foot of Conveyor if Fittings not Furnished		
Conveyor	Pipe	Coupling	Next to Pipe	Outer Edge				Hanger	Coupling	Total
4x	1 1/4	1	3/16	.11	8	\$2.75	\$.40	\$.08	\$.06	\$.14
6x	1 3/4	1 1/2	3/8	.125	10	3.00	.60	.10	.08	.18
6xx	1 3/4	1 1/2	3/8	.20	10	3.50	.60	.10	.08	.18
9x	2	1 1/2	3/8	.172	10	4.75	.60	.12	.08	.20
9xx	2 1/2	2	3/8	.19	10	5.50	.90	.14	.12	.26
12x	2 1/2	2	3/8	.17	12	6.00	.90	.20	.11	.31
12xx	2 1/2	2 1/2	3/8	.18	12	7.00	1.20	.22	.16	.38
12xxx	3 1/4	2 1/2	3/8	.25	12	8.50	1.60	.29	.22	.51
14xx	3 1/2	3	7/8	.234	12	8.00	1.60	.35	.22	.57
16xxx	4	3	1	.25	12	10.00	2.35	.40	.22	.62

*List prices include one No. 13 or No. 17 hanger and one coupling with each standard (full length) section. (No lining is furnished with heavy conveyor.) When lengths shorter than standard are ordered no fittings are furnished unless specified, and an extra charge is made.



Sectional Flights for Steel Spiral Conveyors

(Fig. T-607)

Price List

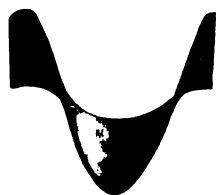


Fig. T-609

In ordering flights specify pitch of screw, inside or outside diameter of pipe, and whether for right or left hand.

Sizes, Inches	Standard		Thickness of Flights in Inches								
	Center Flights	End	16 Gauge	14 Gauge	12 Gauge	10 Gauge	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
4	\$.30	\$.35	\$.30	\$.35	\$.40	\$.55	\$.60	\$.80			
5	.45	.50	.45	.50	.60	.75					
6	.45	.50	.45	.50	.60	.75	.85	1.05	\$1.30	\$1.75	
7	.65	.80		.65	.80	1.00	1.15	1.45	1.75	2.25	
8	.85	1.10		.85	1.10	1.40	1.60	2.00	2.50	3.00	
9	.95	1.50		.95	1.20	1.50	1.70	2.15	3.00	3.60	\$5.50
10	1.25	1.85			1.50	1.85	2.00	2.60	3.60	4.25	6.50
12	1.80	2.35			1.80	2.35	2.70	3.30	4.50	5.50	8.50
14	3.25	3.25				3.25	3.85	4.70	6.00	7.00	11.00
16	4.00	4.00				4.00	4.80	6.00	7.50	9.00	13.50
18	5.20	6.15				5.20	6.15	7.50	9.50	11.50	17.00
20	8.00	8.00					8.00	10.00	12.50	15.00	22.00

Steel Lining for Wood Conveyor Boxes

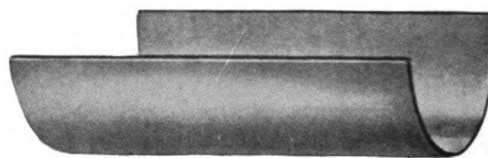


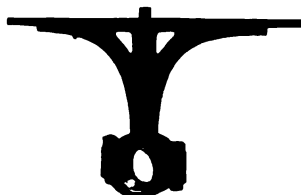
Fig. T-610

Price List Per Lineal Foot

Diameter Con- veyor, Inches	Width of Sheet, Inches	Length of Sheet, Inches	Standard Lining		Gauge and List Prices of Heavy Lining								
			Gauge of Steel	List Prices	22	20	18	16	14	12	10	$\frac{3}{8}$	$\frac{1}{2}$
4	8	30	24	\$.18	\$.21	\$.25	\$.35	\$.40					
6	12	30	24	.25	.30	.40	.50	.60	\$.70				
9	18	30	22	.50		.55	.75	.85	1.00	\$1.35	\$1.80		
10	20	30	20	.60		.60	.80	.90	1.15	1.55	2.00		
12	24	30	20	.70		.70	.95	1.10	1.35	1.85	2.40	\$3.40	
14	28	30	18	1.20			1.20	1.40	1.70	2.30	3.00	3.90	
16	32	30	18	1.30			1.30	1.50	1.85	2.45	3.10	4.40	\$5.50
18	36	30	18	1.45			1.45	1.65	2.05	2.80	3.60	4.90	6.40

Hangers for Steel Spiral Conveyors

Price List



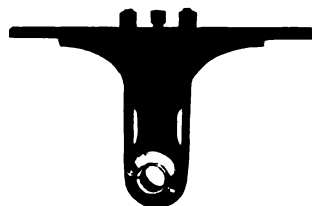
No. 13 Hanger Babbitted



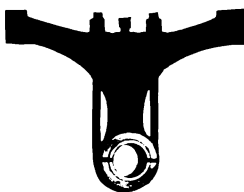
No. 14 Hanger Babbitted Bearing

Diam. Con- veyor, Inches	Diam. Coup- ling, Inches	Length of Bearing, Inches	Style of Hanger			Hanger Bearings			U-bolts for No. 17 and 18 Hangers
			No. 13	No. 17	No. 20	Hanger Caps		Bear- ings No. 20, Chilled	
						Nos. 13, 14, 17, 18, Babb'd	No. 17, Chilled		
4	1	1½	\$2.00	\$2.25		\$.50			\$.30
6	1½	2	2.25	2.75*	\$8.00	.75	\$.75	\$1.50	.35
9	1½	2	3.00	3.50*	8.50	.75	.75	1.50	.50
9	2	2	3.50	4.00*	9.00	1.00	1.00	2.00	.50
10	1½	2	3.75	4.25	9.00	.75		1.50	.55
10	2	2	4.25	4.75	9.50	1.00		2.00	.55
12	2	2	4.50	5.00*	10.00	1.00	1.00	2.00	.60
12	2 7/16	3	6.00	6.50	10.50	1.50		3.00	.65
12	3	3	7.50	8.50*	11.00	2.00	2.00	4.00	.65
14	2 7/16	3	7.50	8.00	12.50	1.50		3.00	.70
16	3	3	10.50	11.50*	15.00	2.00	2.00	4.00	1.10
18	3	3	11.50	12.50	17.00	2.00		4.00	1.15
20	3	3	14.00	15.00	20.00	2.00		4.00	1.20

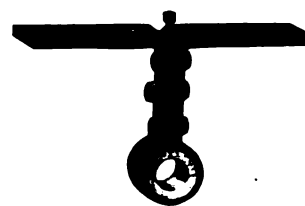
*Furnished in babbitted or chilled bearing.



No. 17 Hanger Babbitted, in Sizes Noted*



No. 18 Hanger Babbitted



No. 20 Hanger Chilled Cast-iron Bearing

Fittings for Steel Spiral Conveyors

Right Angle Drives

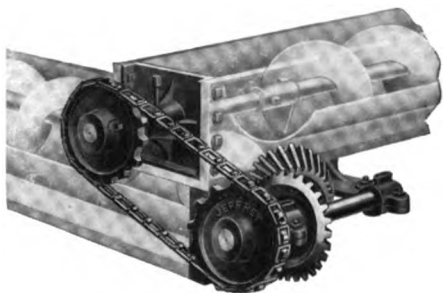


Fig. T-611

Price List

Diameter Spiral, Inches	Diameter Shaft, Inches	For Wood or Steel Trough
4	1	\$38.00
6	1½	45.00
8	1½	55.00
9	1½	60.00
9	2	68.00
10	1½	77.00
10	2	85.00
12	2	95.00
12	2⅞	105.00
14	2⅞	135.00
16	3	205.00

Price includes end bearings, gears, shafts, sprockets, chain and set collars

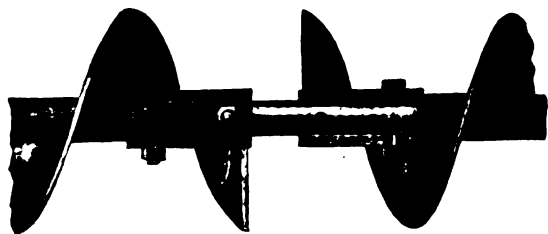


Fig. T-612

Coupling and Drive End Shafts

Coupling space between conveyor sections is for standard length of hanger bearing, page 224.

Price List

Coupling Shafts			Drive End Shafts Drilled for bolts with keyway not more than 6 inches long and one Standard Square Key					
Diameter Conveyor, Inches	Diameter Shaft, Inches	List Price Each	Projection From pipe, Inches	Diameter of Shaft in Inches				
				1	1½	2	2⅞	3
4	1	\$1.00	6	\$1.00	.....	.....	.....	.....
6	1½	1.75	7	.....	.....	.....	.....	.....
9	1½	1.75	8	1.10	\$1.90	.....	.....	.....
9	2	3.00	9	1.15	2.00	.....	.....	.....
10	1½	1.75	10	1.20	2.10	\$3.35	\$5.20	.....
10	2	3.00	11	1.25	2.30	3.75	5.75	.....
12	2	3.00	12	1.25	2.30	3.75	5.75	\$8.55
12	2⅞	4.00	14	1.35	2.55	4.10	6.25	9.35
14	2⅞	4.00	16	1.45	2.75	4.45	6.80	10.15
16	3	6.00	18	1.55	3.00	4.85	7.35	11.00
18	3	6.00	24	1.85	3.60	5.90	8.95	13.40
			30	2.20	4.25	7.10	10.65	15.90
			36	2.50	4.80	8.15	12.20	18.25
			48	3.10	6.15	10.25	15.35	23.00
Projection for Std. Drive Shafts (Inches).....				6	9	10	11	12
Length over all Std. Drive Shafts (Inches).....				9	14	15	16	17

For price of standard tail end deduct 25 per cent from coupling price.

To arrive at approximate length overall for drive shafts add 3 inches for 1-inch diameter shafts and 5 inches for larger diameter shafts.

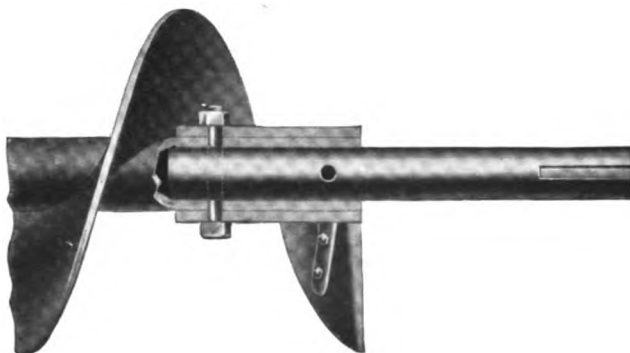


Fig. T-613

Bearings for Steel Spiral Conveyors

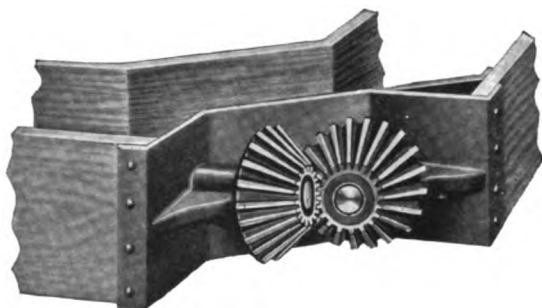


Fig. T-614
Miter Gear End Bearing
for Wood Trough

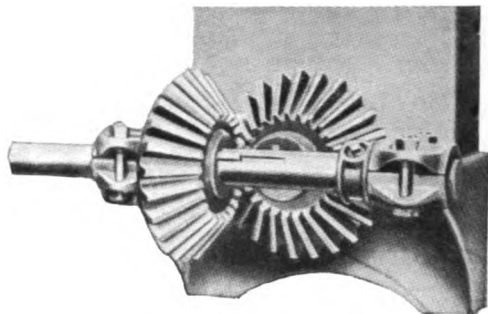


Fig. T-615
Countershaft End Bearing
for Wood Trough

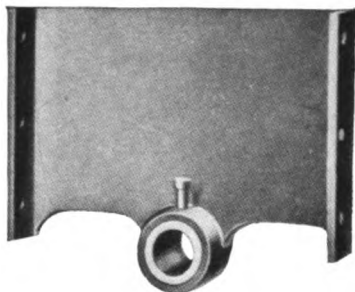


Fig. T-616
Discharge End Bearing
for Wood Trough

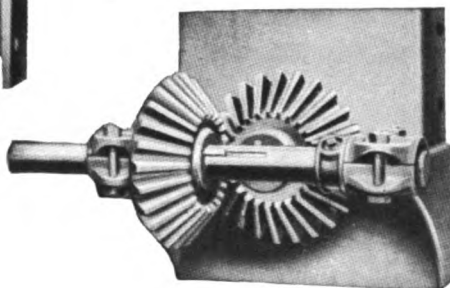


Fig. T-618
Countershaft End Bearing
for Steel Trough

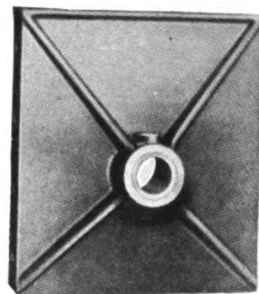


Fig. T-617
Plain End Bearing
for Wood Trough

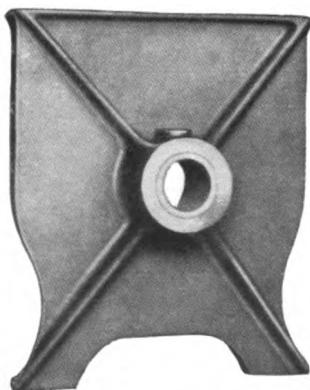


Fig. T-619
Plain End Bearing
for Steel Trough

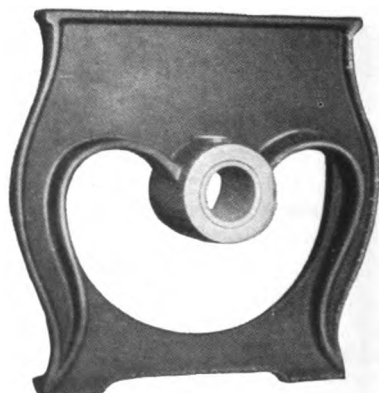


Fig. T-620
Discharge End Bearing
for Steel Trough

Fittings for Steel Spiral Conveyors

Price List—Bearings for Wood and Steel Troughs

Diameter Spiral, Inches	Diameter, Shaft, Inches	For Wood Troughs				For Steel Troughs		
		Plain End Bearing	Discharge End Bearing	Countershaft* End Bearing	Miter Gear* End Bearing	Plain End Bearing	Discharge End Bearing	Countershaft* End Bearing
4	1	\$2.00	\$1.75	\$21.00	\$22.00	\$2.00		\$21.00
6	1½	3.00	2.75	27.00	28.00	3.00		27.00
9	1½	4.50	4.00	33.00	50.00	4.50		33.00
10	2	5.00	4.50	39.00		5.00		39.00
12	1½	5.50	5.00	43.00		5.50		43.00
12	2	6.00	5.50	48.00		6.00		48.00
12	2½	8.00	7.00	51.00	80.00	8.00		54.00
12	2½	9.00	8.00	63.00		9.00		63.00
12	3	10.00	9.00	72.00		10.00		72.00
14	2½	11.50	10.00	75.00		11.50		75.00
16	3	15.00	12.50	120.00		15.00		120.00
18	3	17.00	15.00	135.00		17.00		
20	3	21.00				21.00		

*Prices include End Bearings with Gears and Shafts. Countershaft drive extension is 4 inches for 1 inch diameter shaft, 6 inches for other sizes.

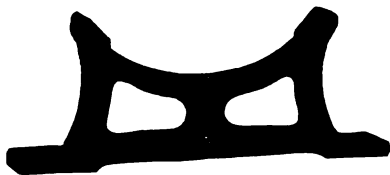


Fig. T-622
Short Saddle

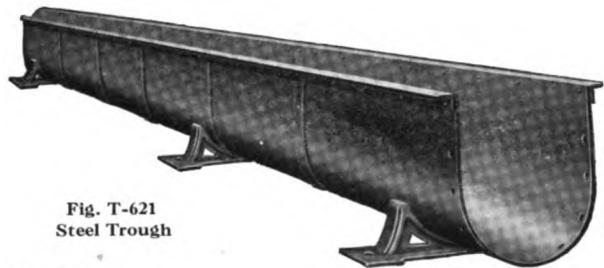


Fig. T-621
Steel Trough

Price List

Diameter Conveyor, Inches	Short Saddles (Fig. T-622)	Trough Without Cover				Cover		
		Gauge Steel	Size Angles	Approximate Weight per Foot, Lbs.	List Price per Foot	Gauge Steel	Approximate Weight per Foot, Lbs.	List Price per Foot
4	\$1.00	18	1½ x 1½ x ¾	5½	\$2.25	20	1	\$0.60
		16	1½ x 1½ x ¾	6½	2.75	20	1	.60
		14	1½ x 1½ x ¾	7½	3.25	20	1	.60
6	1.25	16	1½ x 1½ x ¾	7½	2.75	18	2	.85
		14	1½ x 1½ x ¾	9	3.25	18	2	.85
		12	1½ x 1½ x ¾	11	4.00	18	2	.85
		10	1½ x 1½ x ¾	13	5.00	18	2	.85
9	1.50	14	2 x 1½ x ¾	13	4.00	16	3	1.15
		12	2 x 1½ x ¾	16	5.00	16	3	1.15
		10	2 x 1½ x ¾	19	6.00	16	3	1.15
		¾	2 x 1½ x ¾	24	8.75	16	3	1.15
		1½	2 x 1½ x ¾	31	10.50	16	3	1.15
12	2.00	12	2 x 2 x ¾	20½	6.00	16	4	1.45
		10	2 x 2 x ¾	25	7.50	16	4	1.45
		¾	2 x 2 x ¾	31½	10.50	16	4	1.45
		1½	2 x 2 x ¾	41	12.75	16	4	1.45
16	2.50	12	2 x 2 x ¾	25	8.25	16	5	1.60
		10	2 x 2 x ¾	30	9.75	16	5	1.60
		¾	2 x 2 x ¾	39	12.75	16	5	1.60
		1½	2 x 2 x ¾	51	15.00	16	5	1.60

Flanged Saddles for Steel Troughs

Price List

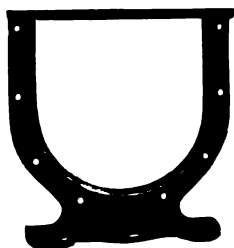


Fig. T-623

Diameter Conveyor, Inches	List Price, Each (Two necessary for one joint)		Diameter Conveyor, Inches	List Price, Each (Two necessary for one joint)	
	With Feet as Illustrated	Without Feet for Unsupported Joint		With Feet as Illustrated	Without Feet for Unsupported Joint
6	\$2.50	\$1.75	14	\$9.00	\$7.00
9	4.50	3.50	16	11.00	9.00
10	5.50	4.50	18	13.00	11.00
12	7.50	6.00			

Adjustable Take-Up Boxes—Babbitted Bearings



Fig. T-624

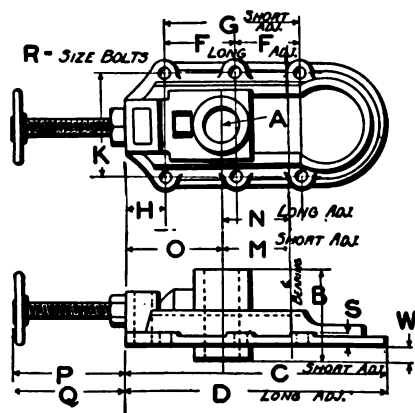


Fig. T-625

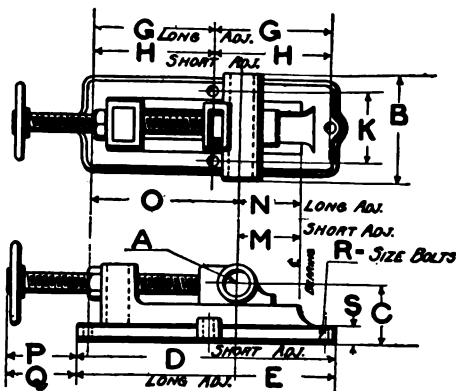
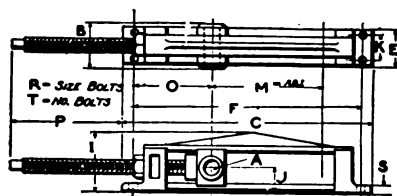


Fig. T-626



Price List

Style B—Fig. T-624

Shaft Diam- eter A, Inches	List Price Short	List Price Long	Dimensions in Inches															
			M*	N	B	C	D	F	G	H	W	K	O	P	Q	R	S	
1 3/8	\$3.10	.....	8	.....	4	17 1/2	.....	.....	10 1/2	2	1 1/2	5 1/2	4 1/2	10 1/2	.....	1 1/2	1 1/2
1 1/2	3.35	.....	8	.....	4 1/2	17 1/2	.....	.....	10 1/2	2	1 1/2	5 1/2	4 1/2	10 1/2	.....	1 1/2	1 1/2
1 1/4	4.45	\$5.45	10	19 1/2	5 1/2	21 1/2	20 1/2	11 1/2	13 1/2	2 1/2	1	6 1/2	4 1/2	12 1/2	21 1/2	1 1/2	1 1/2	
1 3/4	4.50	5.45	9 1/2	19	6	21 1/2	20 1/2	11 1/2	13 1/2	2 1/2	1 1/2	6 1/2	4 1/2	12 1/2	21 1/2	1 1/2	1 1/2	
2 1/8	5.80	7.25	11	21	6 1/2	24 1/2	33 1/2	12 1/2	15 1/2	2 1/2	1 1/2	7 1/2	6	14 1/2	22 1/2	1 1/2	1 1/2	
2 1/4	6.70	7.50	11	21	7	24 1/2	33 1/2	12 1/2	15 1/2	2 1/2	1 1/2	7 1/2	6 1/2	14 1/2	22 1/2	1 1/2	1 1/2	
2 1/2	8.60	9.75	13	25	7 1/2	28 1/2	41 1/2	15 1/2	18	2 1/2	1 1/2	8 1/2	6 1/2	16	28	1 1/2	1 1/2	
2 3/8	8.60	9.75	14	25	8	28 1/2	41 1/2	15 1/2	18	2 1/2	2	8 1/2	6 1/2	16	28	1 1/2	1 1/2	
3 1/8	11.75	17.50	14	30	8 1/2	31 1/2	47 1/2	18 1/2	20	2 1/2	2 1/2	9 1/2	7	15 1/2	33	1 1/2	1 1/2	
3 1/4	11.75	17.50	13	30	9	31 1/2	47 1/2	18 1/2	20	2 1/2	2 1/2	9 1/2	7 1/2	15 1/2	33	1 1/2	1 1/2	
3 1/2	14.50	21.00	16 1/2	36 1/2	9 1/2	35 1/2	56 1/2	21 1/2	23 1/2	3 1/2	2 1/2	10 1/2	8	20	38	1 1/2	1 1/2	
3 3/8	14.50	21.00	17	37	10	35 1/2	56 1/2	21 1/2	23 1/2	3 1/2	2 1/2	10 1/2	8 1/2	20	38	1 1/2	1 1/2	

* Short adjustment furnished, unless otherwise specified.

Style C—Fig. T-625

Shaft A, Inches	List Price, Short	List Price, Long	Dimensions in Inches													
			M*	N	B	C	D	E	G	H	K	O	P	Q	R	S
1 1/8	\$3.10	.....	8	.....	4	3 1/2	17 1/2	.....	.....	8 1/2	3 1/2	5	9 1/2	.....	1 1/2	1 1/2
1 1/4	3.35	.....	8	.....	4 1/2	3 1/2	17 1/2	.....	.....	8 1/2	3 1/2	5	9 1/2	.....	1 1/2	1 1/2
1 1/2	4.45	\$5.45	10	13 1/2	5 1/2	3 1/2	20 1/2	29	13 1/2	9 1/2	4 1/2	.....	10 1/2	19 1/2	1 1/2	1 1/2
1 3/4	4.50	5.45	9 1/2	19	6	3 1/2	20 1/2	29	13 1/2	9 1/2	4 1/2	.....	10 1/2	19 1/2	1 1/2	1 1/2
2 1/8	5.80	7.25	11	21	6 1/2	4	24	33 1/2	15 1/2	11 1/2	4 1/2	6 1/2	12 1/2	21 1/2	1 1/2	1 1/2
2 1/4	6.70	7.50	11	21	7	4	24	33 1/2	15 1/2	11 1/2	4 1/2	7	12 1/2	21 1/2	1 1/2	1 1/2
2 1/2	8.60	9.75	12	18	7 1/2	4 1/2	26 1/2	34 1/2	15 1/2	12 1/2	5 1/2	7 1/2	14	20	1 1/2	1 1/2
2 3/8	8.60	9.75	12	18	8	4 1/2	26 1/2	34 1/2	15 1/2	12 1/2	5 1/2	7 1/2	14	20	1 1/2	1 1/2
3 1/8	11.75	17.50	14	30	8 1/2	5 1/2	30 1/2	47 1/2	22 1/2	14 1/2	5 1/2	8 1/2	16 1/2	32	1 1/2	1 1/2
3 1/4	11.75	17.50	13	30	9	5 1/2	30 1/2	47 1/2	22 1/2	14 1/2	5 1/2	8 1/2	16 1/2	32	1 1/2	1 1/2
3 1/2	14.50	21.00	16 1/2	36	9 1/2	5 1/2	33 1/2	54 1/2	15 1/2	15 1/2	6 1/2	9	17 1/2	37 1/2	1 1/2	1 1/2
3 3/8	14.50	21.00	17	37	10	5 1/2	33 1/2	54 1/2	15 1/2	15 1/2	6 1/2	9 1/2	17 1/2	37 1/2	1 1/2	1 1/2

* Short adjustment furnished, unless otherwise specified.

Style D—Fig. T-626

Diam- eter Shaft A, Inches	Ad- just- ment M	List Price	Dimensions in Inches											
			B	C	E	F	I	J	K	O	P	R	S	T
1 1/8	11 1/2	\$6.15	5	23 1/2	3 1/2	21 1/2	5 1/2	2 1/2	.....	5 1/2	11 1/2	1 1/2	1 1/2	2
1 1/4	12	8.15	5 1/2	26 1/2	3 1/2	23 1/2	7 1/2	2 1/2	.....	6 1/2	11 1/2	1 1/2	1 1/2	2
1 1/2	18	9.10	5 1/2	32 1/2	3 1/2	29 1/2	7 1/2	2 1/2	.....	6 1/2	17 1/2	1 1/2	1 1/2	2
2 1/8	14	9.10	6	28 1/2	4	25 1/2	7 1/2	2 1/2	.....	6 1/2	13 1/2	1 1/2	1 1/2	2
2 1/4	20	10.10	6	34 1/2	4	31 1/2	7 1/2	2 1/2	.....	6 1/2	19 1/2	1 1/2	1 1/2	2
2 1/2	15	9.90	6 1/2	30 1/2	4	27 1/2	8 1/2	3 1/2	.....	6 1/2	14 1/2	1 1/2	1 1/2	2
2 3/8	20	10.80	6 1/2	35 1/2	4	32 1/2	8 1/2	3 1/2	.....	6 1/2	19 1/2	1 1/2	1 1/2	2
2 1/2	11	14.80	7 1/2	26 1/2	6	24 1/2	9 1/2	4	4	7 1/2	11 1/2	1 1/2	1 1/2	4
2 1/4	23 1/2	18.60	7 1/2	39	6	37	10 1/2	4	4	8 1/2	12 1/2	1 1/2	1 1/2	4
2 1/2	10 1/2	15.10	8	26 1/2	6	24 1/2	9 1/2	4	4	7 1/2	11 1/2	1 1/2	1 1/2	4
2 1/4	22 1/2	19.65	8	39	6	37	10 1/2	4	4	8 1/2	12 1/2	1 1/2	1 1/2	4
3 1/8	15 1/2	22.00	9	34 1/2	6	31 1/2	11 1/2	5 1/2	3 1/2	9 1/2	16	1 1/2	2	4
3 1/4	15 1/2	22.60	9 1/2	34 1/2	6	31 1/2	11 1/2	5 1/2	3 1/2	9 1/2	16	1 1/2	2	4
3 1/2	20 1/2	29.70	9 1/2	50 1/2	6	47 1/2	12 1/2	5 1/2	3 1/2	10 1/2	29 1/2	1 1/2	2 1/2	4
3 3/8	15 1/2	24.80	10	35 1/2	6	32 1/2	11 1/2	5 1/2	3 1/2	10 1/2	15 1/2	1 1/2	2	4
3 1/2	35 1/2	36.90	10	58 1/2	6	55 1/2	12 1/2	5 1/2	3 1/2	11 1/2	30 1/2	1 1/2	2 1/2	4
4 1/8	12 1/2	35.55	10 1/2	37	7	33 1/2	13 1/2	6 1/2	4	13	10 1/2	1	2 1/2	4
4 1/4	21 1/2	43.35	10 1/2	49	7	45 1/2	13 1/2	6 1/2	4	13	22 1/2	1	2 1/2	4
4 1/2	23 1/2	69.80	12	53	9	48	14 1/2	6 1/2	5	14 1/2	22 1/2	1 1/2	2 1/2	4
4 3/8	37 1/2	88.75	12	66 1/2	9	61 1/2	14 1/2	6 1/2	5	14 1/2	36	1 1/2	3	4

Ball and Socket and Swivel Take-ups

Style DD

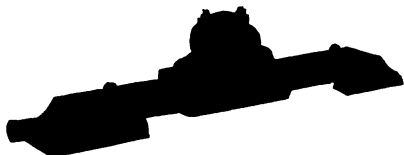
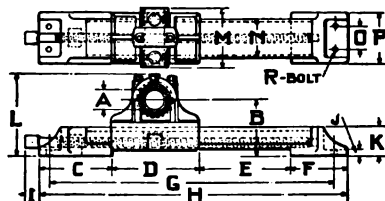


Fig. T-627



Style DD ball and socket type with grease oiling bearing makes the binding of the shaft by uneven alignment or unequal adjustment of a pair of the take-ups practically impossible while swivel bearings with flexibility in a horizontal plane only, fill all ordinary requirements. The swivel type is the same in general appearance as the ball and socket type, but the slide angle bolts answer also for the hold-down bolts to timber or steel supports.

The adjustments in table are standard but may be increased upon order from 2 to 3 feet to suit requirements. Note additional prices given in following table.

Price List

Ball and Socket Type																		
Size Shaft, Inches	List Price for Standard Adjustment	Adjustment		Dimensions in Inches														
		Std. Adj. E	Additional Price per Extra foot of Adjustment	B	C	D	F	G	H	I	J	K	L	M	N	O	P	R
2 ⁷ / ₁₆	\$25 00	24	\$1 50	6 ¹ / ₂	9 ¹ / ₂	12	7 ¹ / ₄	51	53 ³ / ₄	2 ¹ / ₈	7 ⁸ / ₈	3 ¹ / ₈	10 ³ / ₄	7 ¹ / ₂	5	3	6	5 ⁷ / ₈
2 ¹ / ₁₆	36 00	24	2 20	8 ⁵ / ₈	11 ⁵ / ₈	14	9 ¹ / ₂	56 ⁵ / ₈	60 ¹ / ₈	2 ³ / ₄	1 ¹ / ₈	4 ³ / ₈	13 ¹ / ₂	9	6	3 ¹ / ₂	8	7 ⁷ / ₈
3 ¹ / ₁₆	38 00	24	2 50	8 ⁵ / ₈	11 ⁵ / ₈	14	9 ¹ / ₂	56 ⁵ / ₈	60 ¹ / ₈	2 ³ / ₄	1 ¹ / ₈	4 ³ / ₈	13 ³ / ₄	9 ¹ / ₂	6	3 ¹ / ₂	8	7 ⁷ / ₈
3 ³ / ₁₆	41 00	24	3 00	8 ⁷ / ₈	11 ⁵ / ₈	14	9 ¹ / ₂	56 ⁵ / ₈	60 ¹ / ₈	2 ³ / ₄	1 ¹ / ₈	4 ³ / ₈	14 ¹ / ₄	10	6	3 ¹ / ₂	8	7 ⁷ / ₈
4 ¹ / ₁₆	74 00	36	4 00	12 ¹ / ₄	11 ⁵ / ₈	18	9 ¹ / ₂	72 ⁵ / ₈	76 ¹ / ₈	2 ⁷ / ₈	1 ¹ / ₄	6	18 ³ / ₄	13 ¹ / ₂	8	5 ¹ / ₂	10	7 ⁷ / ₈
4 ¹ / ₁₆	85 00	36	5 00	12 ⁵ / ₈	11 ⁵ / ₈	18	9 ¹ / ₂	72 ⁵ / ₈	76 ¹ / ₈	2 ⁷ / ₈	1 ¹ / ₄	6	19 ¹ / ₂	15	8	5 ¹ / ₂	10	7 ⁷ / ₈
Swivel Type																		
3 ¹ / ₁₆	62 00	37	3 60	7 ³ / ₈	6 ¹ / ₂	12 ¹ / ₂	5 ³ / ₄	56 ¹ / ₄	61 ³ / ₄	2 ¹ / ₂	4 ¹ / ₄	4 ¹ / ₄	12 ¹ / ₄	12	7 ¹ / ₂	5	7 ¹ / ₂	3 ¹ / ₈
4 ⁷ / ₁₆	71 00	37	4 00	8	7 ³ / ₈	14 ¹ / ₄	6 ⁵ / ₈	58 ³ / ₄	65 ¹ / ₄	2	4 ¹ / ₄	4 ¹ / ₄	13 ¹ / ₄	13 ¹ / ₂	8	5 ¹ / ₄	8	3 ¹ / ₈

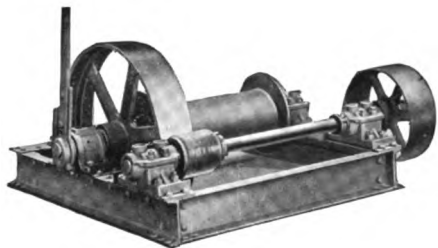


Fig. T-628

Friction Hoists

These hoists are designed and built for severe service. They are equipped with wide face, tarred fibre frictions, proportionately large shafts and other parts assembled upon structural steel frames.

Single Friction Hoists

Price List

Sizes	List Price Complete with Pulley	Diameter and Face, Inches		Maximum Economical Size of Wire Rope* and Maximum Pulling Strength in Pounds									
		Drum	Drive Pulley	At 1 / 5 of Ultimate Rope Strength								At 1/ 3 of Ultimate Rope Strength	
				5/16 inch	3/8 inch	7/16 inch	1/2 inch	9/16 inch	5/8 inch	3/4 inch	5/16 inch	3/8 inch	
1	\$180.00	8 x 24	16 x 6	450	500	300	.....	.....	.....	.....	1000	1000
2	275.00	12 x 24	20 x 8	600	750	750	650	.....	.....	.....	1300	1300
3	350.00	18 x 30	30 x 8	800	1150	1350	1500	1350	.....	.....	1600	1600
4	600.00	24 x 30	36 x 10	.....	1320	1700	2000	2000	2300	2300	1700	1800

*Maximum pulling strengths are based upon a consideration of the bending of the ropes around the hoist drums, and the proper pulling strength of the tarred paper frictions to obtain a maximum of economical service from both the rope and the frictions.
Prices for Double Friction Hoists will be quoted upon application.

Jeffrey Single Roll Coal Crushers

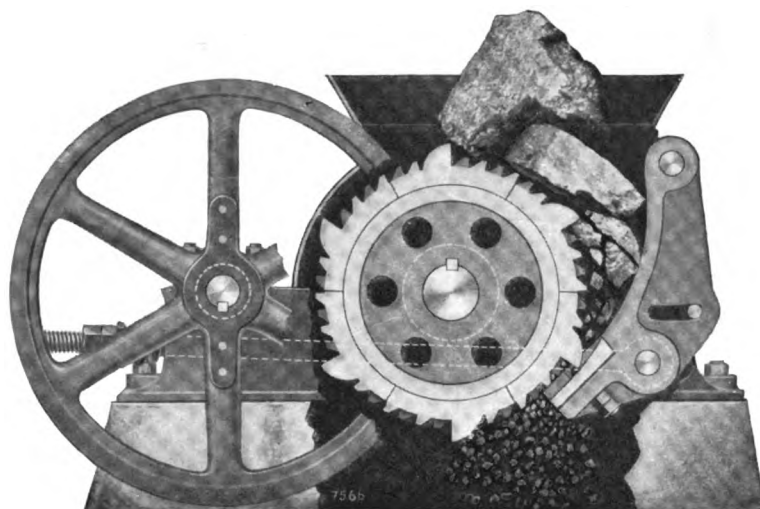


Fig. T-629

Patented

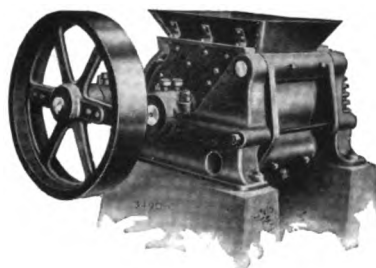


Fig. T-630

These crushers reduce run of mine coal to stoker size in a single operation. They are made in five sizes covering a large range of capacities and are adaptable for either portable or stationary installations.

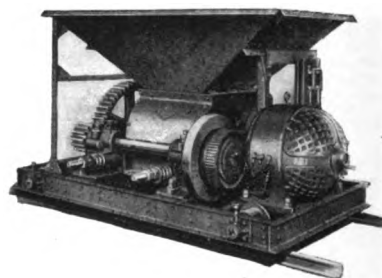


Fig. T-631

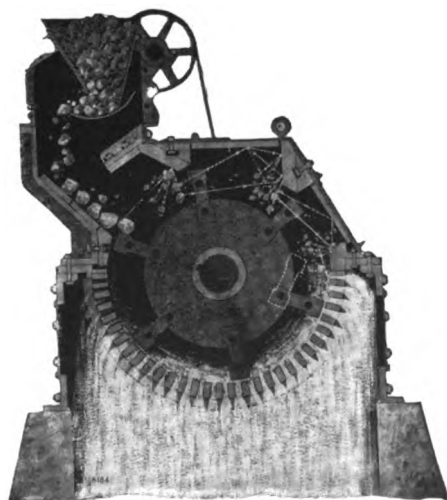


Fig. T-632

Jeffrey Swing Hammer Pulverizers and Shredders

For the reduction of friable materials such as limestone, coal, burnt lime, shale and numerous other raw, finished or waste materials. Made in various sizes and types, adapted to the material to be reduced.

Jeffrey Self-Propelling Loaders

As a mechanical means to reduce the cost and facilitate the loading of sand, gravel, crushed stone, ashes, cinders, coal and other loose materials from ground storage, the Jeffrey Self-Propelling Loaders are recommended.

They eliminate the drudgery of hand shovelling and the confusion caused by employing a large number of laborers, and save the time of loading trucks and wagons, as the loader and one man can do the work at the rate of one cubic yard per minute.

Some of the outstanding features of the Jeffrey Self-Propelling Loaders are:

The three-wheel construction enables the machine to move backward and forward and cut a wide path through a pile of material.

As the buckets are the widest part of the boom the machine can dig 8 to 10 feet into the pile.

The loader is rigid under all conditions of the ground.

It will collapse to pass under trestles or beams.

It turns short corners and can be propelled in any direction.

There are two speeds: slow, for feeding into the material, and fast, for traveling from pile to pile.

The conveyor is mechanically simple and easy to handle.

It is operated by one man, and,

Equipped with either electric motor or gasoline engine.



Fig. T-633



Fig. T-634

Jupiter Transmission Rope

Is suitable for transmitting large amounts of power over medium diameter sheaves through a comparatively small width of space. It will not deteriorate from action of gases and acid fumes and does not shrink or stretch under varying conditions of the atmosphere or surroundings. The average amount of total stretch is small, about 2 per cent, and as a result numerous periodical shortenings and resplicings are unnecessary.

It is composed of five strands of nineteen wires each, similar to standard wire rope construction but with each strand compactly sewed or covered with tarred hemp marlin, and laid up around a blue hemp center core as shown in illustration. This marlin covering around each strand increases the tractive power of the rope and also provides protection to the wire strands from wear through contact with outside objects and from internal wear on each other.

When but a short time in service, the marlin becomes packed between the strands and presents a smooth cylindrical surface, especially where a good graphite dressing is used, which gives an added protection from moisture.

It is recommended for use in open American System drives with sheaves of proper diameter and suitable grooves. The use of idlers causing reverse bending of rope is to be avoided. To insure best operating results splicing should not be attempted by one unfamiliar with splicing Jupiter transmission rope.

To furnish estimate, or supply material necessary for a complete drive, information must be given as suggested on page 87. If a new rope only is required, particularly for the purpose of increasing the capacity of a present drive, in addition furnish a templet giving profile of grooves in sheaves upon which rope is to operate.

TABLE OF HORSE POWER OF JUPITER TRANSMISSION ROPE, PROTECTED DRIVES. AMERICAN SYSTEM.

Price per Foot	Diameter of Rope, Inches	Speed of Rope in Feet per Minute.									*Approximate Tension Weight in Lbs.	Minimum Diameter of Sheaves in Feet	Approximate Weight per Foot
		1000	1500	2000	2500	3000	3500	4000	4500	5000			
\$.27	$\frac{3}{8}$	7.2	10.6	14	17	19.7	22.1	24.1	25.3	26.6	225	2	.40
.325	$\frac{7}{16}$	8.7	12.8	16.8	20.4	23.5	26.5	29.3	31.2	32.6	275	2 $\frac{1}{2}$	.45
.34	$\frac{1}{2}$	12.6	18.7	25.2	30.1	35.4	40.1	44.2	48.2	50.5	375	3	.54
.38	$\frac{5}{8}$	15.0	22.3	29.3	35.7	42	47.3	52	56	59	450	3 $\frac{1}{2}$	.60
.41	1	15.2	22.5	29.5	36	42.2	47.6	52.4	56.5	59.2	450	3 $\frac{1}{2}$	.70
.42	1	18.8	27.8	36.6	44.8	52.5	59.5	65.7	70.8	75	550	4	.80
.505	1 $\frac{1}{8}$ Special	22.6	33.5	44	53.9	63.1	71.5	78.9	85.2	90.2	650	4 $\frac{1}{2}$	.96
.55	1 $\frac{3}{8}$	26.3	39.1	51.3	63	73.8	83.6	92.1	99.6	105.3	775	5	1.12
.66	1 $\frac{3}{4}$	34.6	51.4	67.8	83.1	98.5	111.1	123.3	133.6	142.6	975	6	1.29

Above, horse-power of one rope based on 180° Arc of contact.
To obtain horse-power when rope is exposed to the weather, multiply above values by .666.

*For a rope speed of 3500 feet per minute and carriage operating on level. Rope listed as special is composed of six strands nineteen wires each.

Durable Wire Hoisting Rope



Fig. T-635

Made from selected wire, drawn from the best grades of cast steel and extra heavy cast steel, and composed of five strands of nineteen wires each, each strand separately served with hemp marline. It combines the pliability and wearing surface of hemp or manila rope with the strength of wire rope, overcoming the disadvantages of both.

Price per Foot		Diameter in Inches Before Serving	Approximate Diameter in Inches After Serving with Marlin	Approximate Circumference After Serving with Marlin	Approximate Breaking Strength in Tons of 2000 Lbs.		Allowable Working Strain in Tons of 2000 Lbs.		Minimum Size of Drum or Sheave in Feet	Approximate Weight per Foot in Pounds
Cast Steel	Extra Strong Cast Steel				Cast Steel	Extra Strong Cast Steel	Cast Steel	Extra Strong Cast Steel		
\$.22	\$.24	$\frac{1}{4}$	$\frac{9}{16}$	1 $\frac{1}{4}$	2	2.3	.40	.46	$\frac{1}{2}$	.21
.27	.30	$\frac{5}{16}$	$\frac{5}{8}$	2	4.3	4.7	.80	.94	1	.36
.34	.36	$\frac{3}{8}$	$\frac{3}{4}$	2 $\frac{1}{8}$	7.2	8.1	1.44	1.62	1 $\frac{1}{2}$	.49
.42	.47	$\frac{7}{16}$	1	3 $\frac{1}{8}$	11.2	12.6	2.24	2.52	2 $\frac{1}{4}$	.80
.55	.61	$\frac{1}{2}$	1 $\frac{1}{8}$	3 $\frac{1}{2}$	15.7	18.5	3.14	3.7	3	1.12
.66	.73	$\frac{5}{8}$	1 $\frac{1}{4}$	3 $\frac{7}{8}$	22.3	24	4.4	4.8	3 $\frac{1}{2}$	1.29
.75	.83	1	1 $\frac{3}{8}$	4 $\frac{1}{8}$	28.5	31	5.7	6.2	4	1.66
.85	.95	1 $\frac{1}{8}$	1 $\frac{1}{2}$	4 $\frac{3}{4}$	36	40	7.2	8.0	4 $\frac{1}{2}$	2.07
1.04	1.15	1 $\frac{3}{8}$	1 $\frac{3}{4}$	5 $\frac{1}{8}$	45	50	9.0	10.0	5	2.52
1.24	1.36	1 $\frac{3}{4}$	1 $\frac{3}{4}$	5 $\frac{1}{2}$	55	62	11.0	12.4	5 $\frac{1}{4}$	3.06

For price of six strand rope add 20 per cent to the above list. All sizes not specially listed take an intermediate list.



Wire Rope Transmission



Fig. T-636



For the economical transmission of power "in the open" between buildings or cross country for distances not less than 150 feet or more than 1500 to 2000 feet, wire rope may be suitable.

When wire rope is used for the transmission of power the following rules should be observed:

- 1—For drives transmitting power the driving, driven and idler sheaves should be rubber filled.
- 2—On short drives, 150 to 200 feet, use the next larger size rope for horse-power ratings.
- 3—Long drives are to be divided into units of about 300 feet centers, or supported in that distance on rubber filled idlers, two-thirds the diameter of the terminal sheaves.
- 4—The lower strand of rope should always be the tight or working side.
- 5—Horse-power values are listed as high as 5000 feet travel of ropes per minute, but for best life of rope speeds between 2000 and 2500 feet are to be preferred.
- 6—Diameters of sheaves in table result in maximum life and horse-power from the ropes, but where conditions require it terminal sheaves of not less than 80 to 100 diameters of the ropes may be selected from the table with the life of rope and horse-power of same in approximately the same proportion as the diameter of the terminal sheaves selected to the smallest diameter of sheave for that rope, in table.

Price List and Horse Powers of Crucible Cast-Steel Rope. Six Strands of Seven Wires Each Laid Around a Hemp Center

Diameter of Rope	List Price Per Foot	Approximate Weight Per Foot	Diameter Sheave, Feet, See Rule 6	Horse Powers			
				Revolutions per Minute—See Rules 5 and 6			
				80	100	120	140
$\frac{3}{8}$	\$.05 $\frac{1}{2}$	.22	4	4.0	5.0	6.0	7.0
$\frac{7}{16}$	.06 $\frac{1}{2}$	.30	5	9.0	10.0	12.0	14.0
$\frac{1}{2}$	.08	.39	6	13.0	17.0	20.0	23.0
$\frac{9}{16}$	.10	.50	7	20.0	25.0	30.0	35.0
$\frac{5}{8}$	.12	.62	8	26.0	32.0	39.0	45.0
$\frac{3}{4}$	.17	.89	12	99.0	124.0	149.0	.....
$\frac{7}{8}$	.22 $\frac{1}{2}$	1.20	12	115.0	144.0	173.0	.....
1	.29	1.58	14	141.0	176.0	222.0	.....
1 $\frac{1}{8}$	.36	2.00	14	148.0	185.0	.....	.....

NOTE—Use for splice 8 ft. extra for each $\frac{1}{4}$ inch of rope diameter.

Rubber Filled Sheaves for Wire Rope

These sheaves are accurately machined and balanced. They are filled with specially prepared hard rubber securely fitted in place. This filling greatly increases the tractive pull of rope and prevents excessive wear.

Price List

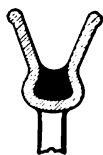


Fig. T-637

Diameter, Inches	Size of Rope	Largest Bore at List Price	List Prices	Diameter, Inches	Size of Rope	Largest Bore at List Price	List Prices
18	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	\$26.50	66	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	\$134.00
24	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	36.00	72	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	144.00
26	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	40.00	84	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	196.00
30	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	42.00	96	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	220.00
36	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	56.00	108	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	250.00
42	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	68.00	24	$\frac{7}{8}$ and 1	$\frac{315}{16}$	50.00
48	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{27}{16}$	74.00	36	$\frac{7}{8}$ and 1	$\frac{315}{16}$	75.00
50	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{215}{16}$	78.00	45	$\frac{7}{8}$ and 1	$\frac{315}{16}$	91.80
54	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{215}{16}$	84.00	48	$\frac{7}{8}$ and 1	$\frac{315}{16}$	96.00
60	$\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$	$\frac{215}{16}$	116.00	60	$\frac{7}{8}$ and 1	$\frac{315}{16}$	150.00
30	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{37}{16}$	56.00	72	$\frac{7}{8}$ and 1	$\frac{415}{16}$	170.00
36	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{37}{16}$	66.00	84	$\frac{7}{8}$ and 1	$\frac{415}{16}$	220.00
42	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{37}{16}$	74.00	96	$\frac{7}{8}$ and 1	$\frac{415}{16}$	250.00
48	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{37}{16}$	92.00	96	1 $\frac{1}{8}$ and 1 $\frac{1}{4}$	$\frac{515}{16}$	360.00
54	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{37}{16}$	98.00	108	1 $\frac{1}{8}$ and 1 $\frac{1}{4}$	$\frac{515}{16}$	440.00
60	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{315}{16}$	116.00	120	1 $\frac{1}{8}$ and 1 $\frac{1}{4}$	$\frac{515}{16}$	500.00

Standard Rigid Angle Pillow Blocks

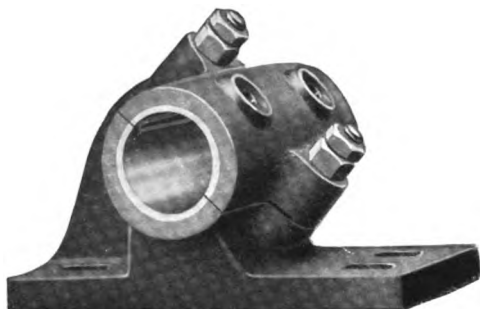


Fig. T-638

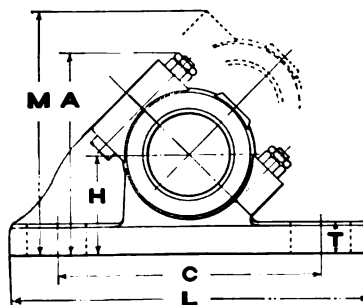
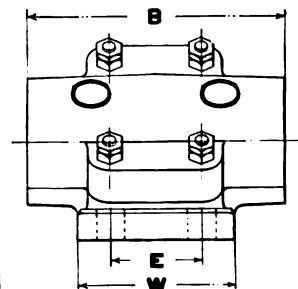


Fig. T-638A



These pillow blocks have been designed primarily to support shafts on which pull is exerted at an angle to the perpendicular, such as, head and tail shafts in conveyor systems.

They may be used horizontally, vertically, or at any angle desired to meet existing conditions.

The long babbitt lined bearings have ends faced for collars and the bases are finished. Holes are tapped into caps for fitting oil or grease cups. Grease cups will be furnished at extra charge when specified.

Shaft Sizes, Inches	List Prices	Dimensions in Inches									Number and Size, Bolts	Number and Size of Pipe Tap for Grease Cups
		H	B	L	W	T	A	M	C	E		
1 $\frac{1}{8}$	\$2.40	1 $\frac{7}{8}$	3 $\frac{3}{4}$	7 $\frac{1}{4}$	3	$\frac{5}{8}$	4	4 $\frac{3}{4}$	5 $\frac{1}{4}$	1 $\frac{1}{2}$	4— $\frac{3}{8}$	1— $\frac{1}{4}$
1 $\frac{1}{4}$	3.00	2 $\frac{1}{8}$	4 $\frac{1}{2}$	8	3 $\frac{1}{2}$	$\frac{3}{4}$	4 $\frac{3}{4}$	5 $\frac{1}{2}$	5 $\frac{3}{4}$	1 $\frac{3}{4}$	4— $\frac{3}{8}$	1— $\frac{1}{4}$
1 $\frac{1}{2}$	3.90	2 $\frac{3}{8}$	5 $\frac{1}{4}$	8 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{3}{4}$	5	5 $\frac{3}{4}$	6 $\frac{1}{4}$	1 $\frac{3}{4}$	4— $\frac{3}{8}$	1— $\frac{1}{4}$
1 $\frac{5}{8}$	5.40	2 $\frac{3}{4}$	6	10	4 $\frac{1}{4}$	$\frac{7}{8}$	6	6 $\frac{3}{4}$	7 $\frac{1}{4}$	2 $\frac{1}{4}$	4— $\frac{1}{2}$	1— $\frac{3}{8}$
2 $\frac{3}{16}$	7.05	2 $\frac{7}{8}$	6 $\frac{3}{4}$	10	4 $\frac{1}{4}$	$\frac{7}{8}$	6 $\frac{1}{4}$	7	7 $\frac{1}{4}$	2 $\frac{1}{4}$	4— $\frac{1}{2}$	1— $\frac{3}{8}$
2 $\frac{1}{4}$	8.25	3 $\frac{1}{4}$	7 $\frac{1}{2}$	11 $\frac{1}{4}$	5	1	7	8	8 $\frac{3}{8}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{1}{2}$	10.50	3 $\frac{3}{8}$	8 $\frac{1}{4}$	11 $\frac{3}{4}$	5	1	7 $\frac{1}{4}$	8 $\frac{1}{4}$	8 $\frac{7}{8}$	2 $\frac{3}{4}$	4— $\frac{5}{8}$	1— $\frac{3}{8}$
2 $\frac{5}{8}$	13.10	3 $\frac{1}{2}$	9	12 $\frac{1}{2}$	5 $\frac{3}{4}$	1 $\frac{1}{8}$	7 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{4}$	3	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{3}{16}$	16.50	3 $\frac{3}{4}$	9 $\frac{3}{4}$	13	5 $\frac{3}{4}$	1 $\frac{1}{8}$	7 $\frac{3}{4}$	9	9 $\frac{3}{4}$	3 $\frac{1}{4}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{1}{4}$	19.50	4	10 $\frac{1}{2}$	13 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{4}$	8 $\frac{1}{2}$	10	10 $\frac{1}{2}$	4 $\frac{1}{6}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{1}{2}$	21.75	4 $\frac{1}{4}$	11 $\frac{1}{4}$	14	6 $\frac{3}{4}$	1 $\frac{1}{4}$	9	10 $\frac{1}{4}$	10 $\frac{3}{4}$	4 $\frac{1}{6}$	4— $\frac{3}{4}$	1— $\frac{1}{2}$
3 $\frac{5}{8}$	24.00	4 $\frac{1}{2}$	12	15 $\frac{1}{4}$	8	1 $\frac{3}{8}$	9 $\frac{3}{4}$	11 $\frac{1}{2}$	11 $\frac{5}{8}$	4 $\frac{7}{8}$	4— $\frac{7}{8}$	1— $\frac{1}{2}$
4 $\frac{7}{16}$	31.50	5	13 $\frac{1}{2}$	17 $\frac{3}{4}$	9	1 $\frac{1}{2}$	11	12 $\frac{3}{4}$	13 $\frac{3}{4}$	5 $\frac{1}{4}$	4—1	1— $\frac{1}{2}$
4 $\frac{15}{16}$	41.25	5 $\frac{1}{2}$	15	17 $\frac{3}{4}$	9	1 $\frac{5}{8}$	12	14	13 $\frac{3}{4}$	5 $\frac{1}{8}$	4—1	1— $\frac{1}{2}$
5 $\frac{1}{16}$	51.00	6	16 $\frac{1}{2}$	20 $\frac{1}{2}$	9 $\frac{1}{2}$	1 $\frac{7}{8}$	12 $\frac{3}{4}$	15	15 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
5 $\frac{15}{16}$	63.00	6 $\frac{1}{2}$	18	20 $\frac{1}{2}$	9 $\frac{1}{2}$	2 $\frac{1}{8}$	13 $\frac{3}{4}$	16	15 $\frac{3}{4}$	6	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
6 $\frac{7}{16}$	75.00	7	19 $\frac{1}{2}$	22 $\frac{3}{4}$	10 $\frac{1}{2}$	2 $\frac{1}{4}$	15	17 $\frac{1}{4}$	18	7	4—1 $\frac{1}{8}$	2— $\frac{1}{2}$
6 $\frac{15}{16}$	90.00	7 $\frac{1}{2}$	21	22 $\frac{3}{4}$	10 $\frac{1}{2}$	2 $\frac{3}{8}$	16	18 $\frac{1}{2}$	18	7	4—1 $\frac{1}{8}$	3— $\frac{1}{2}$
7 $\frac{1}{16}$	105.00	8	22 $\frac{1}{2}$	25	12	2 $\frac{1}{2}$	17	19 $\frac{3}{4}$	19 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$	3— $\frac{1}{2}$
7 $\frac{15}{16}$	120.00	8 $\frac{1}{2}$	24	25	12	2 $\frac{3}{4}$	17 $\frac{1}{4}$	20	19 $\frac{1}{2}$	8	4—1 $\frac{1}{4}$	3— $\frac{1}{2}$

Plain Steel Oil Cups



Fig. T-639

These cups are drawn from rolled sheet steel, are practically indestructible, of very light weight, and fitted with plain screw tops.

Price List

Number	Thread, Inches	Diameter Body, Inches	Height Overall, Inches	List Price, Each
00	$\frac{1}{8}$	$\frac{5}{8}$	$1\frac{5}{16}$	\$.25
0	$\frac{1}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$	.30
1	$\frac{1}{8}$	$\frac{7}{8}$	$1\frac{11}{16}$	.35
2	$\frac{1}{4}$	1	2	.40
3	$\frac{1}{4}$	$1\frac{1}{4}$	$2\frac{1}{8}$	.60
4	$\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{7}{16}$	.90

Plain Compression Steel Grease Cups

Price List

Number	Thread (Pipe), Inches	Diameter Body, Inches	Capacity (Grease), Ounces	List, Each, Rough Steel Finish	List, Each, Blued Steel Finish
000	$\frac{1}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	\$.40	\$.55
00	$\frac{1}{8}$	1	$\frac{1}{2}$	.50	.65
0	$\frac{1}{4}$	$1\frac{1}{4}$	$\frac{2}{3}$	.65	.80
1	$\frac{1}{4}$	$1\frac{1}{2}$	1	.80	.95
2	$\frac{3}{8}$	2	2	1.05	1.25
3	$\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	1.45	1.75
4	$\frac{1}{2}$	3	5	2.00	2.50
5	$\frac{3}{4}$	$3\frac{1}{2}$	8	3.00	3.80

Superior in many respects to the ordinary cast-iron cup. They are drawn from rolled sheet steel, are light in weight, and very strong and rigid.



Fig. T-640

Spring Compression Steel Grease Cups

In these automatic type cups the grease is fed by spring pressure and a valve screw in the shank regulates the amount of feed to the bearing. The handle can be adjusted on threaded rod to cut off feed when desired. A lock in the handle prevents it from jarring when cup is subject to vibration.

A cupped leather plunger provides a grease-tight joint and prevents the grease leaking back and interfering with the spring action.

Price List

Number	Thread (Pipe), Inches	Diameter Body, Inches	Capacity (Grease), Ounces	List Price, Each Rough Steel
00	$\frac{1}{8}$	1	$\frac{1}{2}$	\$1.30
0	$\frac{1}{4}$	$1\frac{1}{4}$	1	1.50
1	$\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	1.75
2	$\frac{3}{8}$	2	3	2.00
3	$\frac{1}{2}$	$2\frac{1}{2}$	6	2.75
4	$\frac{1}{2}$	$2\frac{5}{16}$	10	3.60



Fig. T-641

Machine Bolts

With Square Heads, Square Nuts and Finished Points



Fig. T-642

Price List per Hundred

Length, Inches	Diameter in Inches										
	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$ and $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
$\frac{3}{4}$ to $1\frac{1}{2}$	\$1.70	\$2.00	\$2.40	\$2.80	\$3.60	\$5.20	\$7.70	\$10.50	\$15.10	\$22.50	\$30.00
2	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00	23.70	31.50
$2\frac{1}{2}$	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90	24.90	33.00
3	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80	26.10	34.50
$3\frac{1}{2}$	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70	27.30	36.00
4	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60	28.50	37.50
$4\frac{1}{2}$	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50	29.70	39.00
5	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40	30.90	40.50
$5\frac{1}{2}$	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30	32.10	42.00
6	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20	33.30	43.50
$6\frac{1}{2}$	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10	34.50	45.00
7	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00	35.70	46.50
$7\frac{1}{2}$	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90	36.90	48.00
8	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80	38.10	49.50
9	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60	40.50	52.50
10	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40	42.90	55.50
11	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20	45.30	58.50
12	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00	47.70	61.50
13	3.54	4.76	6.08	7.40	9.58	13.94	20.35	26.60	35.80	50.10	64.50
14	3.70	5.00	6.40	7.80	10.10	14.70	21.45	28.00	37.60	52.50	67.50
15	3.86	5.24	6.72	8.20	10.62	15.46	22.55	29.40	39.40	54.90	70.50
16	4.02	5.48	7.04	8.60	11.14	16.22	23.65	30.80	41.20	57.30	73.50
17	4.18	5.72	7.36	9.00	11.66	16.98	24.75	32.20	43.00	59.70	76.50
18	4.34	5.96	7.68	9.40	12.18	17.74	25.85	33.60	44.80	62.10	79.50
19	4.50	6.20	8.00	9.80	12.70	18.50	26.95	35.00	46.60	64.50	82.50
20	4.66	6.44	8.32	10.20	13.22	19.26	28.05	36.40	48.40	66.90	85.50
21	.....	.....	.....	.....	.....	.....	29.15	37.80	50.20	69.30	88.50
22	.....	.....	.....	.....	.....	.....	30.25	39.20	52.00	71.70	91.50
23	.....	.....	.....	.....	.....	.....	31.35	40.60	53.80	74.10	94.50
24	.....	.....	.....	.....	.....	.....	32.45	42.00	55.60	76.50	97.50
25	.....	.....	.....	.....	.....	.....	33.55	43.40	57.40	78.90	100.50
26	.....	.....	.....	.....	.....	.....	34.65	44.80	59.20	81.30	103.50
27	.....	.....	.....	.....	.....	.....	35.75	46.20	61.00	83.70	106.50
28	.....	.....	.....	.....	.....	.....	36.85	47.60	62.80	86.10	109.50
29	.....	.....	.....	.....	.....	.....	37.95	49.00	64.60	88.50	112.50
30	.....	.....	.....	.....	.....	.....	39.05	50.40	66.40	90.90	115.50
Advance per inch	.16	.24	.32	.40	.52	.76	1.10	1.40	1.80	2.40	3.00

Bolts with Hexagon Heads or Hexagon Nuts, 10 per cent extra.
If both Hexagon Heads and Hexagon Nuts, 20 per cent extra.

Lag Screws and Hanger Bolts



Fig. T-643

Gimlet Point
Lag Screw

Hanger
Bolt



Fig. T-644

Price List

Length, Inches	Lag Screws per Hundred							Hanger Bolts per Hundred						
	$\frac{1}{4}$ and $\frac{3}{8}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	$\frac{7}{8}$ & $\frac{1}{2}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	1 Inch	$\frac{1}{4}$ and $\frac{3}{8}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	$\frac{1}{2}$ Inch	$\frac{3}{4}$ Inch	$\frac{7}{8}$ Inch	1 Inch
1 1/2	\$2.25	\$2.70	\$3.75											
2	2.45	2.96	4.11	\$6.00				\$3.00	\$3.60	\$5.06	\$6.19			
2 1/2	2.65	3.22	4.47	6.50	\$9.20			3.19	3.83	5.44	6.75	\$9.90		
3	2.85	3.48	4.83	7.00	9.90	\$15.00		3.38	4.05	5.81	7.31	10.73		
3 1/2	3.05	3.74	5.19	7.50	10.60	16.00	\$22.00	3.57	4.28	6.19	7.88	11.55	\$15.00	
4	3.25	4.00	5.55	8.00	11.30	17.00	23.30	3.75	4.50	6.56	8.44	12.38	16.00	
4 1/2	3.45	4.26	5.91	8.50	12.00	18.00	24.60	3.94	4.73	6.94	9.00	13.20	17.00	
5	3.65	4.52	6.27	9.00	12.70	19.00	25.90	4.13	4.95	7.31	9.56	14.03	18.00	\$26.25
6	4.05	5.04	6.99	10.00	14.10	21.00	28.50	4.50	5.40	8.06	10.69	15.68	20.00	28.75
7			7.71	11.00	15.50	23.00	31.10		5.84	8.80	11.82	17.33	22.50	31.25
8			8.43	12.00	16.90	25.00	33.70		6.28	9.55	12.95	19.03	24.37	33.75
9			9.15	13.00	18.30	27.00	36.30			9.92	13.51	19.85	26.25	35.62
10			9.87	14.00	19.70	29.00	38.90			10.30	14.08	20.68	27.50	37.50
11			10.59	15.00	21.10	31.00	41.50				14.64	21.50	28.75	39.38
12			11.31	16.00	22.50	33.00	44.10				15.21	22.32	30.00	41.25

Lag screws with hexagon heads 10 per cent extra. Hanger bolts with hexagon nuts 10 per cent extra

Wrought Iron or Plate Washers

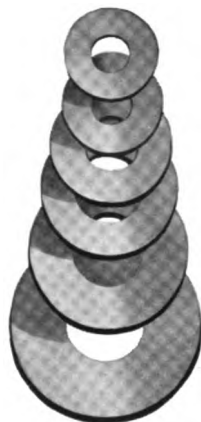


Fig. T-645

Diameter, Inches	Size of Hole, Inches	Thick- ness of Wire Gauge Number	Size of Bolt, Inches	Price per Hundred Pound	Estimated Number of Washers in 100 Pounds	Diameter, Inches	Size of Hole, Inches	Thick- ness of Wire Gauge Number	Size of Bolt, Inches	Price per Hundred Pound	Estimated Number of Washers in 100 Pounds
9/16	1/4	18	3/16	\$14.00	44075	2 3/4	1 1/4	9	1 1/8	\$9.00	516
3/4	5/16	16	1/4	12.20	15600	3	1 3/8	9	1 1/4	9.20	403
7/8	3/8	16	5/16	11.40	11250	3 1/4	1 1/2	8	1 3/8	9.20	320
1	7/16	14	3/8	10.50	6800	3 1/2	1 5/8	8	1 1/2	9.20	278
1 1/4	1/2	14	7/16	9.80	4300	3 3/4	1 3/4	8	1 5/8	9.50	247
1 3/8	9/16	12	1/2	9.40	2600	4	1 7/8	8	1 3/4	9.50	224
1 1/2	5/8	12	9/16	9.30	2250	4 1/4	2	8	1 7/8	9.50	200
1 3/4	11/16	10	5/8	9.20	1300	4 1/2	2 1/8	8	2	9.50	180
2	13/16	10	3/4	9.10	1013	4 3/4	2 3/8	8	2 1/4	10.50	140
2 1/4	15/16	9	7/8	9.00	858	5	2 5/8	7	2 1/2	10.50	115
2 1/2	1 1/16	9	1	9.00	617						

Cast-Iron Washers



Fig. T-646

Diameter, Inches	Size of Hole, Inches	Thickness, Inches	Size of Bolt, Inches	Weight, Pounds	Diameter, Inches	Size of Hole, Inches	Thickness, Inches	Size of Bolt, Inches	Weight, Pounds
2 1/4	5/8	11/16	1/2	1 1/2	4	1 1/8	15/16	1	1 5/8
2 3/4	3/4	3/4	5/8	5/8	4 1/2	1 1/4	1	1 1/8	2 1/4
3	7/8	13/16	3/4	3/4	5	1 3/8	1 1/8	1 1/4	3
3 1/2	1	7/8	7/8	1 1/4	6	1 3/4	1 1/4	1 1/2	5

Prices quoted upon application.



Rules for Calculating the Revolutions Per Minute of Gears, Sprockets and Pulleys

In calculating for gears or sprockets, multiply or divide by the pitch diameter or number of teeth, as may be required. In calculating for pulleys, multiply or divide by their diameter in inches.

The driving wheel is specified the driver, and the driven wheel the driven.

I

The revolutions of the driver and driven, and the diameter of driven being given, required the diameter of driver.

Rule—Multiply the diameter of driven by its number of revolutions, and divide by the number of revolutions of the driver.

II

The diameter and revolutions of the driver being given, required the diameter of the driven to make a given number of revolutions in the same time.

Rule—Multiply the diameter of the driver by its number of revolutions, and divide the product by the required number of revolutions.

III

The diameter or number of teeth, and number of revolutions of the driver, with the diameter or number of teeth of the driven being given, required the revolutions of the driven.

Rule—Multiply the diameter or number of teeth of the driver by its number of revolutions, and divide by the diameter or number of teeth of the driven.

IV

The diameter of driver and driven, and the number of revolutions of the driven being given, required the number of revolutions of the driver.

Rule—Multiply the diameter of driven by its number of revolutions, and divide by the diameter of the driver.

Horse Power for Grain Elevators

The approximate horse power required to elevate cereals may be obtained by the following rule:

The capacity of elevators being generally given in bushels per hour, multiply the number of bushels per hour by the height of the elevator and divide the product by 33000. To this must be added 10 to 25 per cent. for friction, depending on individual conditions. In general the larger percentage applies to the smaller elevators.

The weight of a bushel of grain is taken at 60 pounds.

$$H. P. = \frac{N \times H}{33000}$$

Where N = number of bushels per hour.

H = height of lift in feet.

Mensuration

Diameter of a circle $\times 3.1416$ = circumference.

Diameter of a circle $\times .8862$ = side of an equal square.

Diameter of a circle $\times .7071$ = side of an inscribed square.

Square of diameter $\times .7854$ = area of circle.

Circumference of a circle $\times .31831$ = diameter.

Side of a square $\times 1.128$ = diameter of equal circle.

Square root of an area $\times 1.12837$ = diameter of equal circle.

Square of the diameter of a sphere $\times 3.1416$ = convex surface.

Cube of the diameter of a sphere $\times .5236$ = solidity.

Diameter of a sphere $\times .806$ = dimensions of equal cube.

Diameter of a sphere $\times .6667$ = length of equal cylinder.

Square inches $\times .00695$ = square feet.

Cubic inches $\times .00058$ = cubic feet.

Cubic feet $\times .03704$ = cubic yards.

Cylindrical inches $\times .0004546$ = cubic feet.

Cubic inches $\times .003607$ = imperial gallons.

Cubic feet $\times .6232$ = imperial gallons.

Avoirdupois pounds $\times .009$ = cwts.

Avoirdupois pounds $\times .00045$ = tons.

Lineal feet $\times .00019$ = statute miles.

Lineal yards $\times .000568$ = statute miles.

To find the pressure in pounds per square inch of a column of water, multiply height of column in feet by .434.

The areas of circles are to each other as the square of their diameters. A circle whose diameter is double that of another contains four times the area.

Area of a triangle = base multiplied by half the altitude.

Area of a sector of a circle = one-half the length of the arc multiplied by the radius of the circle.

To find the capacity (U. S. gallons) of cylindrical tanks, square the diameter expressed in inches, multiply by the length and by .0034.



Fractions of a Lineal Inch in Decimals

Fractions of an Inch	Decimal Equivalents	Fractions of an Inch	Decimal Equivalents	Fractions of an Inch	Decimal Equivalents	Fractions of an Inch	Decimal Equivalents	Fractions of an Inch	Decimal Equivalents
$\frac{1}{64}$	.015625	$\frac{7}{32}$	.21875	$\frac{27}{64}$	.421875	$\frac{5}{8}$	.625	$\frac{53}{64}$	.828125
$\frac{1}{32}$	.03125	$\frac{15}{64}$	.234375	$\frac{7}{16}$	.4375	$\frac{47}{64}$	.640625	$\frac{27}{32}$	.84375
$\frac{3}{64}$	.04687	$\frac{1}{4}$	.25	$\frac{29}{64}$	.453125	$\frac{21}{32}$	.65625	$\frac{55}{64}$	.859375
$\frac{1}{16}$	.0625	$\frac{17}{64}$	.265625	$\frac{15}{32}$	.46875	$\frac{43}{64}$	.671875	$\frac{7}{8}$	.875
$\frac{5}{64}$	.078125	$\frac{9}{32}$	.28125	$\frac{31}{64}$	.484375	$\frac{11}{16}$	.6875	$\frac{57}{64}$	.890625
$\frac{3}{32}$	.09375	$\frac{19}{64}$	.296875	$\frac{1}{2}$	.5	$\frac{45}{64}$	.703125	$\frac{29}{32}$	.90625
$\frac{7}{64}$	.109375	$\frac{15}{16}$	.3125	$\frac{53}{64}$	.515625	$\frac{23}{32}$	.71875	$\frac{59}{64}$	.921875
$\frac{1}{8}$	.125	$\frac{21}{64}$	.328125	$\frac{17}{32}$	.53125	$\frac{47}{64}$	.734375	$\frac{15}{16}$	.9375
$\frac{9}{64}$	.140625	$\frac{11}{32}$	.34375	$\frac{35}{64}$	.546875	$\frac{3}{4}$	.75	$\frac{61}{64}$	.953125
$\frac{5}{32}$	.15625	$\frac{23}{64}$	.359375	$\frac{9}{16}$	.5625	$\frac{49}{64}$	.765625	$\frac{31}{32}$	.96875
$\frac{11}{64}$	.171875	$\frac{25}{64}$	.375	$\frac{57}{64}$	.578125	$\frac{25}{32}$	.78125	$\frac{63}{64}$	.984375
$\frac{3}{16}$	.1875	$\frac{19}{32}$	.390625	$\frac{19}{32}$	.59375	$\frac{51}{64}$	.796875	1	1.000
$\frac{13}{64}$	.203125	$\frac{15}{32}$	.40625	$\frac{39}{64}$	.609375	$\frac{15}{16}$	.8125		

Metric Conversion Table

Weights

1 grain = 0.0647989 grams
 1 ounce, avoirdupois = 28.3496 grams
 1 ounce, troy = 31.10348 grams
 1 pound, avoirdupois = 453.593 grams
 1 ton, 2000 pounds = 907.186 kilograms
 1 ton, 2240 pounds = 1.016 metric tons
 1 gram = 15.432 grains
 1 kilogram = 2.2046 pounds, avoirdupois
 1 tonne or metric ton = 2204.6 pounds, avoirdupois

Volume

1 cubic inch = 16.387 cubic centimeters
 1 cubic foot = 0.02832 cubic meter = 28.317 liters
 1 cubic yard = 0.7645 cubic meter
 1 U. S. gallon = 3.78543 liters
 1 bushel = 0.35242 hectoliter
 1 perch = 0.700846 cubic meter
 1 cubic centimeter = 0.0610234 cubic inch
 1 cubic meter = 35.314 cubic feet = 1.308 cubic yards
 1 liter = 0.26417 U. S. gallon = 61.023 cubic inches
 1 hectoliter = 2.8375 bushels

Lengths

1 inch = 2.54 centimeters
 1 foot = 0.3048 meter
 1 yard = 0.914402 meter
 1 mile = 1.60935 kilometers
 1 millimeter = 0.03937 inch
 1 centimeter = 0.3937 inch
 1 meter = 39.37 inches
 1 kilometer = 3280.83 feet = 0.62137 mile

Surface

1 square inch = 6.45163 square centimeters
 1 square foot = 0.0929034 square meter
 1 square yard = 0.836131 square meter
 1 acre = 4046.87 square meters
 1 square mile = 2.59000 square kilometers
 1 square centimeter = 0.15500 square inch
 1 square meter = 10.764 square feet
 1 hectare = 2.47104 acres = 107641 square feet
 1 square kilometer = 0.386101 square mile

Kilowatts and Horsepower

0.746 Kilowatts = 1 Horsepower

Kilowatts to Horsepower				Horsepower to Kilowatts			
K.W.	Horsepower	K.W.	Horsepower	H.P.	Kilowatts	H.P.	Kilowatts
1	1.341	60	80.436	1	.746	60	44.76
2	2.681	70	93.842	2	1.492	70	52.22
3	4.022	80	107.248	3	2.238	80	59.68
4	5.363	90	120.654	4	2.984	90	67.14
5	6.703	100	134.048	5	3.730	100	74.60
6	8.044	200	268.12	6	4.476	200	149.20
7	9.384	300	402.18	7	5.222	300	223.80
8	10.725	400	536.24	8	5.968	400	298.4
9	12.065	500	670.30	9	6.714	500	373.0
10	13.406			10	7.460		
		600	804.36			600	447.6
20	26.812	700	938.42	20	14.920	700	522.2
30	40.218	800	1072.48	30	22.380	800	596.8
40	53.624	900	1206.54	40	29.840	900	671.4
50	67.030	1000	1340.60	50	37.300	1000	746.0



Weights of Materials in Pounds Avoirdupois

Earths and Minerals

	Pounds per Cubic Foot
Asphaltum.....	88
Asbestos.....	191
Basalt.....	181
Bath stone (Oolite).....	131
Bismuth.....	613
Cadmium.....	540
Chalk.....	156
Clay, potter's dry.....	119
Clay, dry in lump.....	63
Clay, damp plastic.....	100
Earth, common loam, dry loose	76
Earth, common loam, dry shaken	87
Earth, common loam, moist loose	70
Earth, common loam, moist shaken.....	82
Earth, common loam, as mud.	108
Feldspar.....	166
Flint.....	162
Fluorspar, wet.....	140
Gneiss, common.....	168
Gneiss, loose piles.....	96
Granite, solid.....	170
Gravel.....	120
Gypsum, solid.....	140
Gypsum, in irregular lumps.....	82
Gypsum, ground loose.....	56
Hornblende.....	203
Limestone and marble, loose.....	96
Limestone, solid.....	168
Mica.....	183
Petroleum.....	55
Porphyry.....	170
Phosphate, ground dried.....	75
Plumbago.....	140
Quartz, solid.....	165
Quartz, ground loose.....	90
Rock, rotten.....	100
Sand, coarse dry.....	117
Sand, fine dry.....	100
Sand, wet.....	140
Sandstone, solid.....	150
Shale, red or black.....	162
Slate.....	175
Soapstone.....	170
Sulphur.....	125
Trap rock, solid.....	187
Trap rock, broken.....	110
Turf or peat, dry.....	25

Fuels

	Pounds per Cubic Foot
Charcoal, dry.....	18
Coal, anthracite, solid.....	94
Coal, anthracite, loose.....	56
Coal, bituminous, solid.....	84
Coal, bituminous, loose.....	52
Coke.....	28

Grains and Vegetables

	Pounds per Bushel
Barley.....	48
Beans, green.....	24
Beans, white.....	60
Beans, castor.....	46
Beets.....	60
Blue grass seed.....	14
Bran.....	20
Buckwheat.....	48
Carrots.....	55
Clover seed.....	60
Corn meal.....	50
Corn, on cob.....	70
Corn, shelled.....	56
Cotton seed.....	30
Coffee, whole roasted.....	34
Flax seed.....	56
Flour.....	70
Hemp seed.....	44
Malt.....	38
Oats.....	32
Onions.....	57
Peas, green.....	32
Peas, dried.....	60
Pepper, black.....	38
Pickles.....	48
Potatoes, white.....	60
Potatoes, sweet.....	55
Rye.....	56
Spinach.....	12
Timothy seed.....	45
Turnips.....	55
Wheat.....	60

Metals

	Pounds per Cubic Inch
Aluminum.....	.095
Antimony.....	.244
Arsenic.....	.208
Babbitt.....	.400
Brass, cast (copper and zinc).....	.292
Brass, rolled.....	.300
Bronze (copper and tin).....	.315
Copper, pure.....	.318
Copper, rolled.....	.321
Gold, pure 24 carat.....	.697
Gold, 20 carat.....	.568
Iron, cast.....	.261
Iron, pure.....	.281
Iron, wrought.....	.277
Lead, hammered.....	.412
Lead, pure.....	.410
Manganese.....	.290
Nickel.....	.318
Platinum, pure.....	.706
Platinum, rolled.....	.793

Metals (Continued)

	Pounds per Cubic Inch
Spelter.....	.253
Steel, cast.....	.286
Steel, soft.....	.283
Tin.....	.264
Zinc, cast.....	.248
Zinc, rolled.....	.260

Woods

	Pounds per Cubic Foot
Ash, dry.....	38
Boxwood, dry.....	60
Cherry, dry.....	42
Chestnut, dry.....	41
Cork, dry.....	15
Ebony, dry.....	76
Elm, dry.....	35
Hemlock, dry.....	25
Hickory, dry.....	53
Lignum vitae.....	83
Mahogany, dry.....	53
Maple, dry.....	49
Oak, red.....	38
Oak, white.....	48
Pine, white.....	25
Pine, yellow, Northern.....	34
Pine, yellow, Southern.....	45
Spruce, dry.....	25
Sycamore, dry.....	37
Walnut, black dry.....	38
Green timber weighs 20 to 50 per cent more than dry.	
Ordinarily seasoned timber, about 15 per cent more than dry.	

Miscellaneous

	Pounds per Cubic Foot
Apples, green.....	44
Apples, dried.....	20
Ashes, anthracite, dry.....	30
Ashes, bituminous, dry.....	43
Baking powder.....	56
Benzene.....	53
Bone, dried and ground.....	75
Brick, pressed.....	150
Brick, common.....	125
Butter.....	59
Brick, soft.....	100
Cement, Portland.....	95
Cement, natural.....	73
Cement, clinker.....	95
Cinders.....	43
Concrete, cinder.....	110
Concrete, gravel or stone.....	150



Weights of Iron and Steel per Square Foot

Thickness in Inches	Weight per Square Foot		Thickness in Inches	Weight per Square Foot		Thickness in Inches	Weight per Square Foot	
	Iron	Steel		Iron	Steel		Iron	Steel
$\frac{1}{32}$	1.263	1.35	$\frac{9}{32}$	11.37	11.75	$\frac{9}{16}$	22.73	23.50
$\frac{1}{16}$	2.526	2.75	$\frac{5}{16}$	12.63	13.50	$\frac{5}{8}$	25.26	26.00
$\frac{3}{32}$	3.789	4.00	$\frac{11}{32}$	13.89	14.25	$\frac{11}{16}$	27.79	28.50
$\frac{1}{8}$	5.052	5.35	$\frac{3}{8}$	15.16	16.00	$\frac{3}{4}$	30.31	31.00
$\frac{5}{32}$	6.315	6.75	$\frac{13}{32}$	16.42	16.75	$\frac{13}{16}$	32.84	33.50
$\frac{3}{16}$	7.578	7.85	$\frac{7}{16}$	17.68	18.50	$\frac{7}{8}$	35.37	36.00
$\frac{7}{32}$	8.841	9.25	$\frac{15}{32}$	18.95	19.25	$\frac{15}{16}$	37.89	38.50
$\frac{1}{4}$	10.10	11.00	$\frac{1}{2}$	20.21	21.00	1	40.42	41.00

Weight of Round and Square Steel per Lineal Foot in Pounds

Based on 489.6 Pounds per Cubic Foot

Size, Inches	Weight of \square 1 Foot Long	Weight of \square 1 Foot Long	Size, Inches	Weight of \square 1 Foot Long	Weight of \square 1 Foot Long	Size, Inches	Weight of \square 1 Foot Long	Weight of \square 1 Foot Long	Size, Inches	Weight of \square 1 Foot Long	Weight of \square 1 Foot Long
$\frac{1}{32}$	.0026	.0033	$2\frac{1}{4}$	13.52	17.22	$4\frac{1}{2}$	54.07	68.85	$6\frac{3}{4}$	121.7	154.9
$\frac{1}{16}$	.0104	.0133	$2\frac{5}{16}$	14.28	18.19	$4\frac{9}{16}$	55.59	70.78	$6\frac{13}{16}$	123.9	157.8
$\frac{1}{8}$	.0417	.0531	$2\frac{3}{8}$	15.07	19.18	$4\frac{5}{8}$	57.12	72.73	$6\frac{7}{8}$	126.2	160.8
$\frac{3}{16}$	.0938	.1195	$2\frac{7}{16}$	15.86	20.20	$4\frac{11}{16}$	58.67	74.70	$6\frac{15}{16}$	128.5	163.6
$\frac{1}{4}$	.1669	.2123	$2\frac{1}{2}$	16.69	21.25	$4\frac{3}{4}$	60.25	76.71	7	130.9	166.6
$\frac{5}{16}$	.2608	.3333	$2\frac{9}{16}$	17.53	22.33	$4\frac{13}{16}$	61.84	78.74	$7\frac{1}{8}$	135.6	172.6
$\frac{3}{8}$	.3756	.4782	$2\frac{5}{8}$	18.40	23.43	$4\frac{7}{8}$	63.46	80.81	$7\frac{1}{4}$	140.4	178.7
$\frac{7}{16}$	.5111	.6508	$2\frac{11}{16}$	19.29	24.56	$4\frac{15}{16}$	65.10	82.89	$7\frac{3}{8}$	145.3	184.9
$\frac{1}{2}$	.6676	.8500	$2\frac{3}{4}$	20.20	25.71	5	66.76	85.00	$7\frac{1}{2}$	150.2	191.3
$\frac{9}{16}$	.8449	1.076	$2\frac{13}{16}$	21.12	26.90	$5\frac{1}{16}$	68.44	87.14	$7\frac{5}{8}$	155.2	197.7
$\frac{5}{8}$	1.043	1.328	$2\frac{7}{8}$	22.07	28.10	$5\frac{1}{8}$	70.14	89.30	$7\frac{3}{4}$	160.3	204.2
$\frac{11}{16}$	1.262	1.608	$2\frac{15}{16}$	23.04	29.34	$5\frac{3}{16}$	71.86	91.49	$7\frac{7}{8}$	165.6	210.8
$\frac{3}{4}$	1.502	1.913	3	24.03	30.60	$5\frac{1}{4}$	73.60	93.72	8	171.0	217.6
$\frac{13}{16}$	1.763	2.245	$3\frac{1}{16}$	25.04	31.89	$5\frac{5}{16}$	75.37	95.96	$8\frac{1}{8}$	176.3	224.5
$\frac{7}{8}$	2.044	2.603	$3\frac{1}{8}$	26.08	33.20	$5\frac{3}{8}$	77.15	98.23	$8\frac{1}{4}$	181.8	231.4
$\frac{15}{16}$	2.347	2.989	$3\frac{3}{16}$	27.13	34.55	$5\frac{7}{16}$	78.95	100.5	$8\frac{3}{8}$	187.3	238.5
1	2.670	3.400	$3\frac{1}{4}$	28.20	35.92	$5\frac{1}{2}$	80.77	102.8	$8\frac{1}{2}$	193.0	245.6
$1\frac{1}{16}$	3.014	3.838	$3\frac{5}{16}$	29.30	37.31	$5\frac{9}{16}$	82.62	105.2	$8\frac{5}{8}$	198.7	252.9
$1\frac{1}{8}$	3.379	4.303	$3\frac{3}{8}$	30.42	38.73	$5\frac{5}{8}$	84.49	107.6	$8\frac{3}{4}$	204.4	260.3
$1\frac{1}{4}$	3.766	4.795	$3\frac{7}{16}$	31.56	40.18	$5\frac{11}{16}$	86.38	110.0	$8\frac{7}{8}$	210.3	267.9
$1\frac{1}{2}$	4.173	5.312	$3\frac{1}{2}$	32.71	41.65	$5\frac{3}{4}$	88.29	112.4	9	216.3	275.4
$1\frac{5}{16}$	4.600	5.857	$3\frac{9}{16}$	33.90	43.14	$5\frac{13}{16}$	90.22	114.9	$9\frac{1}{8}$	222.4	283.2
$1\frac{3}{8}$	5.049	6.428	$3\frac{5}{8}$	35.09	44.68	$5\frac{7}{8}$	92.17	117.4	$9\frac{1}{4}$	228.5	290.9
$1\frac{7}{16}$	5.518	7.026	$3\frac{11}{16}$	36.31	46.24	$5\frac{15}{16}$	94.14	119.9	$9\frac{3}{8}$	234.7	298.9
$1\frac{1}{2}$	6.008	7.650	$3\frac{3}{4}$	37.56	47.82	6	96.14	122.4	$9\frac{1}{2}$	241.0	306.8
$1\frac{9}{16}$	6.520	8.301	$3\frac{13}{16}$	38.81	49.42	$6\frac{1}{16}$	98.14	125.0	$9\frac{5}{8}$	247.4	315.0
$1\frac{5}{8}$	7.051	8.978	$3\frac{7}{8}$	40.10	51.05	$6\frac{1}{8}$	100.2	127.6	$9\frac{3}{4}$	253.9	323.2
$1\frac{11}{16}$	7.604	9.682	$3\frac{15}{16}$	41.40	52.71	$6\frac{3}{16}$	102.2	130.2	$9\frac{7}{8}$	260.4	331.6
$1\frac{3}{4}$	8.178	10.41	4	42.73	54.40	$6\frac{1}{4}$	104.3	132.8	10	267.0	340.0
$1\frac{13}{16}$	8.773	11.17	$4\frac{1}{16}$	44.07	56.11	$6\frac{5}{16}$	106.4	135.5	$10\frac{1}{4}$	280.6	357.2
$1\frac{7}{8}$	9.388	11.95	$4\frac{1}{8}$	45.44	57.85	$6\frac{3}{8}$	108.5	138.2	$10\frac{1}{2}$	294.4	374.9
$1\frac{15}{16}$	10.02	12.76	$4\frac{3}{16}$	46.83	59.62	$6\frac{7}{16}$	110.7	140.9	$10\frac{3}{4}$	308.6	392.9
2	10.68	13.60	$4\frac{1}{4}$	48.24	61.41	$6\frac{1}{2}$	112.8	143.6	11	323.1	411.4
$2\frac{1}{16}$	11.36	14.46	$4\frac{5}{16}$	49.66	63.23	$6\frac{9}{16}$	114.9	146.5	$11\frac{1}{4}$	337.9	430.3
$2\frac{1}{8}$	12.06	15.35	$4\frac{3}{8}$	51.11	65.08	$6\frac{5}{8}$	117.2	149.2	$11\frac{1}{2}$	353.1	449.6
$2\frac{1}{4}$	12.78	16.27	$4\frac{7}{16}$	52.58	66.95	$6\frac{11}{16}$	119.4	152.1	$11\frac{3}{4}$	368.6	469.4

These figures represent the theoretical weights of steel. Wrought iron will average about 2 per cent lighter; cast iron 9 per cent lighter.

Dimensions of Steel I-Beams and Channels

I-BEAMS										
D, Inches	Weight per Foot	B, Inches	T, Inches	S, Inches	A, Inches	Size of Holes, Inches				
20	100	7.294	0.894	0.65	4	13/16				
	95	7.220	0.820							
	90	7.147	0.747							
	85	7.043	0.673							
	80	7.00	0.600							
20	80	6.485	0.735	0.55	3 1/2	13/16				
	75	6.412	0.662							
	70	6.338	0.588							
	65	6.25	0.500							
	18	70	6.259				0.719	0.46	3 1/4	13/16
65		6.177	0.637							
60		6.095	0.555							
55		6.000	0.466							
15		100	6.792	1.192	0.80	3 3/4	15/16			
	95	6.694	1.094							
	90	6.596	0.996							
	85	6.498	0.898							
	80	6.40	0.800							
15	80	6.392	0.982	0.59	3 3/4	13/16				
	75	6.294	0.884							
	70	6.196	0.786							
	65	6.098	0.688							
	15	60	5.853				0.703	0.41	3	13/16
55		5.754	0.644							
50		5.656	0.566							
45		5.558	0.468							
12		55	5.618	0.828	0.46	3	13/16			
	50	5.496	0.706							
	45	5.373	0.583							
	12	40	5.208	0.560				0.35	3	13/16
		35	5.085	0.436						
31.5		5.000	0.35							
10		40	5.101	0.751	0.31	2 5/8	13/16			
		35	4.954	0.604						
	30	4.807	0.457							
	25	4.660	0.310							
	9	30	4.624	0.584				0.29	2 1/2	13/16
25		4.461	0.421							
21		4.330	0.290							
8		25.25	4.272	0.542	0.27	2 1/4	13/16			
		22.75	4.181	0.451						
	20.25	4.090	0.360							
	17.75	4.000	0.270							
	7	20	3.87	0.460				0.25	2 1/4	13/16
17.5		3.765	0.355							
15		3.66	0.250							
6		17.25	3.575	0.475	0.23	2	11/16			
		14.75	3.453	0.353						
	12.25	3.330	0.230							
	5	14.75	3.294	0.504				0.21	1 3/4	9/16
		12.25	3.147	0.357						
9.75		3.000	0.210							
4		10.5	2.880	0.410	0.19	1 1/2	9/16			
		9.5	2.806	0.336						
	8.5	2.733	0.263							
	7.5	2.660	0.190							
	3	7.5	2.526	0.366				0.17	1 7/16	7/16
6.5		2.428	0.268							
5.5		2.330	0.170							

The diagram illustrates the cross-section of an I-beam. It shows the flanges at the top and bottom, separated by a central web. Key dimensions are labeled: 'D' for the overall depth, 'B' for the flange width, 'T' for the flange thickness, 'S' for the web thickness, and 'A' for the total height including the flanges. A hole is shown in the web with its diameter labeled as '6'.

CHANNELS										
D, Inches	Weight per Foot	B, Inches	T, Inches	S, Inches	A, Inches	Size of Holes, Inches				
15	55	3.836	0.831	0.40	2 1/4	13/16				
	50	3.733	0.733							
	45	3.638	0.636							
	40	3.538	0.538							
	35	3.440	0.440							
12	33	3.400	0.400	0.28	2	13/16				
	40	3.410	0.758							
	35	3.290	0.636							
	30	3.170	0.513							
	25	3.050	0.390							
10	20.5	2.940	0.280	0.24	1 3/4	13/16				
	35	3.188	0.828							
	30	3.041	0.681							
	25	2.894	0.534							
	20	2.747	0.378							
9	15	2.600	0.240	0.23	1 1/2	13/16				
	25	2.814	0.614							
	20	2.651	0.451							
	15	2.478	0.288							
	13.25	2.430	0.230							
8	21.25	2.628	0.588	0.22	1 1/4	13/16				
	18.75	2.536	0.496							
	16.25	2.444	0.404							
	13.75	2.352	0.312							
	11.25	2.260	0.200							
7	19.75	2.510	0.630	0.20	1 1/2	13/16				
	17.25	2.405	0.525							
	14.75	2.300	0.420							
	12.25	2.195	0.315							
	9.75	2.090	0.210							
6	15.50	2.288	0.568	0.20	1 1/4	11/16				
	13.00	2.166	0.446							
	10.50	2.043	0.323							
	8.00	1.920	0.200							
	5	11.50	2.044				0.484	0.19	1 1/4	9/16
9.00		1.897	0.337							
6.50		1.750	0.190							
4		7.25	1.727	0.327	0.18	1	9/16			
		6.25	1.654	0.254						
	5.25	1.580	0.180							
	3	6.00	1.606	0.366				0.17	15/16	7/16
		5.00	1.508	0.268						
4.00		1.410	0.170							



Weights of Steel Angles

With Fillet

Pounds per Lineal Foot

Size, Inches	Thickness, Inches											
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16
5/8 x 5/8	0.5											
3/4 x 3/4	0.6	0.8										
7/8 x 7/8	0.7	1.0										
1 x 5/8	0.7	1.0										
1 x 3/4		1.0										
1 x 1	0.8	1.2	1.5									
1 1/8 x 1 1/8	0.9	1.3	1.7	2.1								
1 1/4 x 1 1/4	1.0	1.5	1.9	2.4								
1 3/8 x 7/8	1.0	1.4	1.9									
1 1/2 x 1	1.0		1.8									
1 1/2 x 1 1/2	1.2	1.8	2.4	2.9	3.4							
1 3/4 x 1 1/2		2.0	2.6	3.3	3.9							
1 3/4 x 1 3/4	1.4	2.1	2.8	3.4	4.0	4.6						
2 x 1 3/8		2.1	2.7	3.3	3.8							
2 x 1 1/2		2.1	2.8	3.4	4.0							
2 x 2	1.7	2.5	3.2	4.0	4.7	5.3						
2 1/4 x 1 1/2		2.3	3.0	3.7	4.3	5.0	5.5					
2 1/4 x 2 1/4	1.9	2.8	3.7	4.5	5.3	6.1	6.8					
2 1/2 x 1 1/2		2.4	3.2	3.9	4.6	5.3	6.0					
2 1/2 x 1 3/4		2.6										
2 1/2 x 2		2.8	3.7	4.5	5.3	6.1	6.8					
2 1/2 x 2 1/2	2.1	3.0	4.1	5.0	5.9	6.8	7.7	8.5	9.3	10.1		
2 3/4 x 2 3/4	2.4	3.5	4.5	5.5	6.6	7.6	8.5					
3 x 2		3.1	4.1	5.0	5.9	6.8	7.7					
3 x 2 1/2			4.5	5.5	6.6	7.6	8.5	9.5				
3 x 3	2.6		4.9	6.1	7.2	8.4	9.4	10.4	11.4	12.4	13.4	14.4
3 1/4 x 2			4.3	5.3	6.2	7.2	8.1	9.0				
3 1/4 x 3 1/4					7.8	9.0	10.2	11.4	12.5	13.6	14.7	
3 1/2 x 2 1/2			4.9	6.1	7.2	8.3	9.4	10.4	11.4	12.4		
3 1/2 x 3				6.6	7.8	9.1	10.2	11.4	12.5	13.6	14.7	15.7
3 1/2 x 3 1/2			5.7	7.1	8.5	9.8	11.1	12.3	13.6	14.8	16.0	17.1
4 x 3				7.1	8.5	9.8	11.1	12.3	13.6	14.8	16.0	17.1
4 x 3 1/2					9.1	10.5	11.9	13.3	14.6	15.9	17.2	18.5
4 x 4		5.2	6.6	8.2	9.8	11.3	12.8	14.3	15.7	17.1	18.5	19.9
4 1/2 x 3					9.1	10.5	11.9	13.3	14.6	15.9	17.2	18.5
5 x 3				8.2	9.8	11.3	12.8	14.2	15.7	17.1	18.5	19.9
5 x 3 1/2					10.4	12.0	13.6	15.2	16.8	18.3	19.8	21.3
5 x 4					11.0	12.8	14.5	16.2	17.8	19.5	21.1	22.6
5 x 5					12.3	14.3	16.2	18.1	20.0	21.8	23.6	25.4
6 x 3 1/2					11.7	13.5	15.3	17.1	18.9	20.6	22.3	24.0
6 x 4					12.3	14.3	16.2	18.1	20.1	21.8	23.6	25.4
6 x 6					14.4	17.2	19.6	21.9	24.2	26.5	28.7	30.9
7 x 3 1/2						15.0	17.0	19.0	21.0	23.0	24.9	26.8
8 x 8							26.4	29.5	32.7	35.8	38.9	42.0



Wire and Sheet Gauges

U. S. and Birmingham

Sheet mills roll iron and steel sheets to U. S. standard gauge, unless otherwise ordered. Plate mills usually roll heavy plates to Birmingham gauge, unless otherwise ordered. Band and hoops are rolled to Birmingham gauge.

Gauge No.	U. S. Standard				Birmingham		
	Thickness in Inches		Weight, Square Foot		Thickness in Inches	Weight, Square Foot	
	Fractions	Decimals	Iron	Steel		Iron	Steel
7-0's	1/2	.5	20.00	20.4			
6-0's	15/32	.46875	18.75	19.125			
5-0's	7/16	.4375	17.50	17.85			
0000	13/32	.40625	16.25	16.575	.454	18.22	18.46
000	3/8	.375	15.	15.30	.425	17.05	17.28
00	11/32	.34375	13.75	14.025	.38	15.25	15.45
0	5/16	.3125	12.50	12.75	.34	13.64	13.82
1	9/32	.28125	11.25	11.475	.3	12.04	12.20
2	17/64	.265625	10.625	10.8375	.284	11.40	11.55
3	1/4	.25	10.	10.2	.259	10.39	10.53
4	15/64	.234375	9.375	9.5625	.238	9.55	9.68
5	7/32	.21875	8.75	8.925	.22	8.83	8.95
6	13/64	.203125	8.125	8.2875	.203	8.15	8.25
7	3/16	.1875	7.5	7.65	.18	7.22	7.32
8	11/64	.171875	6.875	7.0125	.165	6.62	6.71
9	5/32	.15625	6.25	6.375	.148	5.94	6.02
10	9/64	.140625	5.625	5.7375	.134	5.38	5.45
11	1/8	.125	5.	5.1	.12	4.82	4.88
12	7/64	.109375	4.375	4.4625	.109	4.37	4.43
13	3/32	.09375	3.75	3.825	.095	3.81	3.86
14	5/64	.078125	3.125	3.1875	.083	3.33	3.37
15	9/128	.0703125	2.8125	2.86875	.072	2.89	2.93
16	1/16	.0625	2.5	2.55	.065	2.61	2.64
17	9/160	.05625	2.25	2.295	.058	2.33	2.36
18	1/20	.05	2.	2.04	.049	1.97	1.99
19	7/160	.04375	1.75	1.785	.042	1.69	1.71
20	3/80	.0375	1.50	1.53	.035	1.40	1.42
21	11/320	.034375	1.375	1.4025	.032	1.28	1.30
22	1/32	.03125	1.25	1.275	.028	1.12	1.14
23	9/320	.028125	1.125	1.1475	.025	1.00	1.02
24	1/40	.025	1.	1.02	.022	.883	.895
25	7/320	.021875	.865	.8925	.02	.803	.813
26	3/160	.01875	.75	.765	.018	.722	.732
27	11/640	.0171875	.6875	.70125	.016	.642	.651
28	1/64	.015625	.625	.6375	.014	.562	.569
29	9/640	.0140625	.5625	.57375	.013		
30	1/80	.0125	.5	.51	.012		
31	7/640	.010985	.4375	.44625	.01		
32	13/1280	.01045625	.40625	.414375	.009		
33	3/320	.009375	.375	.3825	.008		
34	11/1280	.00859375	.34375	.350625	.007		
35	5/640	.0078125	.3125	.31875	.005		



Circumferences and Areas of Circles

Diameters, $\frac{1}{16}$ Inch up to and Including 110 Inches Advancing, $\frac{1}{16}$ to 1; $\frac{1}{8}$ to 50; $\frac{1}{4}$ to 80 and $\frac{1}{2}$ to 110

Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches
$\frac{1}{16}$	.19635	.00307	6	18.849	28.274	13	40.840	132.732	20	62.832	314.160
$\frac{1}{8}$	.3927	.01227	$6\frac{1}{8}$	19.242	29.464	$13\frac{1}{8}$	41.233	135.297	$20\frac{1}{8}$	63.224	318.099
$\frac{3}{16}$	.5890	.02761	$6\frac{1}{4}$	19.635	30.679	$13\frac{1}{4}$	41.626	137.886	$20\frac{1}{4}$	63.617	322.063
$\frac{1}{4}$	.7854	.04909	$6\frac{3}{8}$	20.027	31.919	$13\frac{3}{8}$	42.018	140.500	$20\frac{3}{8}$	64.010	326.051
$\frac{5}{16}$	.9817	.07670	$6\frac{1}{2}$	20.420	33.183	$13\frac{1}{2}$	42.411	143.139	$20\frac{1}{2}$	64.402	330.064
$\frac{3}{8}$	1.1781	.1104	$6\frac{5}{8}$	20.813	34.471	$13\frac{5}{8}$	42.804	145.802	$20\frac{5}{8}$	64.795	334.101
$\frac{7}{16}$	1.3744	.1503	$6\frac{3}{4}$	21.205	35.784	$13\frac{3}{4}$	43.197	148.489	$20\frac{3}{4}$	65.188	338.163
$\frac{1}{2}$	1.5708	.1963	$6\frac{7}{8}$	21.598	37.122	$13\frac{7}{8}$	43.589	151.201	$20\frac{7}{8}$	65.580	342.250
$\frac{9}{16}$	1.7771	.2485	7	21.991	38.484	14	43.982	153.938	21	65.973	346.361
$\frac{5}{8}$	1.9635	.3068	$7\frac{1}{8}$	22.383	39.871	$14\frac{1}{8}$	44.375	156.699	$21\frac{1}{8}$	66.366	350.497
$\frac{11}{16}$	2.1598	.3712	$7\frac{1}{4}$	22.776	41.282	$14\frac{1}{4}$	44.767	159.485	$21\frac{1}{4}$	66.759	354.657
$\frac{3}{4}$	2.3562	.4417	$7\frac{3}{8}$	23.169	42.718	$14\frac{3}{8}$	45.160	162.295	$21\frac{3}{8}$	67.151	358.841
$\frac{7}{8}$	2.5525	.5185	$7\frac{1}{2}$	23.562	44.178	$14\frac{1}{2}$	45.553	165.130	$21\frac{1}{2}$	67.544	363.051
$\frac{15}{16}$	2.7489	.6013	$7\frac{5}{8}$	23.954	45.663	$14\frac{5}{8}$	45.945	167.989	$21\frac{5}{8}$	67.937	367.284
	2.9452	.6903	$7\frac{3}{4}$	24.347	47.173	$14\frac{3}{4}$	46.338	170.873	$21\frac{3}{4}$	68.329	371.543
1	3.1416	.7854	$7\frac{7}{8}$	24.740	48.707	$14\frac{7}{8}$	46.731	173.782	$21\frac{7}{8}$	68.722	375.826
$1\frac{1}{8}$	3.5343	.9040	8	25.132	50.265	15	47.127	176.715	22	69.115	380.133
$1\frac{1}{4}$	3.9270	1.2271	$8\frac{1}{8}$	25.525	51.848	$15\frac{1}{8}$	47.516	179.672	$22\frac{1}{8}$	69.507	384.465
$1\frac{3}{8}$	4.3197	1.4848	$8\frac{1}{4}$	25.918	53.456	$15\frac{1}{4}$	47.909	182.654	$22\frac{1}{4}$	69.900	388.822
$1\frac{1}{2}$	4.7124	1.7671	$8\frac{3}{8}$	26.310	55.088	$15\frac{3}{8}$	48.302	185.661	$22\frac{3}{8}$	70.293	393.203
$1\frac{5}{8}$	5.1051	2.0739	$8\frac{1}{2}$	26.703	56.745	$15\frac{1}{2}$	48.694	188.692	$22\frac{1}{2}$	70.686	397.608
$1\frac{3}{4}$	5.4978	2.4052	$8\frac{5}{8}$	27.096	58.426	$15\frac{5}{8}$	49.087	191.748	$22\frac{5}{8}$	71.078	402.038
$1\frac{7}{8}$	5.8905	2.7611	$8\frac{3}{4}$	27.489	60.132	$15\frac{3}{4}$	49.480	194.828	$22\frac{3}{4}$	71.471	406.493
			$8\frac{7}{8}$	27.881	61.862	$15\frac{7}{8}$	49.872	197.933	$22\frac{7}{8}$	71.864	410.972
2	6.2832	3.1416	9	28.274	63.617	16	50.265	201.062	23	72.256	415.476
$2\frac{1}{8}$	6.6759	3.5465	$9\frac{1}{8}$	28.667	65.396	$16\frac{1}{8}$	50.658	204.216	$23\frac{1}{8}$	72.649	420.004
$2\frac{1}{4}$	7.0686	3.9760	$9\frac{1}{4}$	29.059	67.200	$16\frac{1}{4}$	51.051	207.394	$23\frac{1}{4}$	73.042	424.557
$2\frac{3}{8}$	7.4613	4.4302	$9\frac{3}{8}$	29.452	69.029	$16\frac{3}{8}$	51.443	210.597	$23\frac{3}{8}$	73.434	429.135
$2\frac{1}{2}$	7.8540	4.9087	$9\frac{1}{2}$	29.845	70.882	$16\frac{1}{2}$	51.836	213.825	$23\frac{1}{2}$	73.827	433.731
$2\frac{5}{8}$	8.2467	5.4119	$9\frac{5}{8}$	30.237	72.759	$16\frac{5}{8}$	52.229	217.077	$23\frac{5}{8}$	74.220	438.363
$2\frac{3}{4}$	8.6394	5.9395	$9\frac{3}{4}$	30.630	74.662	$16\frac{3}{4}$	52.621	220.353	$23\frac{3}{4}$	74.613	443.014
$2\frac{7}{8}$	9.0321	6.4918	$9\frac{7}{8}$	31.023	76.588	$16\frac{7}{8}$	53.014	223.654	$23\frac{7}{8}$	75.005	447.699
3	9.4248	7.0686	10	31.416	78.540	17	53.407	226.980	24	75.398	452.390
$3\frac{1}{8}$	9.8175	7.6699	$10\frac{1}{8}$	31.808	80.515	$17\frac{1}{8}$	53.799	230.330	$24\frac{1}{8}$	75.791	457.115
$3\frac{1}{4}$	10.210	8.2957	$10\frac{1}{4}$	32.201	82.516	$17\frac{1}{4}$	54.192	233.705	$24\frac{1}{4}$	76.183	461.864
$3\frac{3}{8}$	10.602	8.9462	$10\frac{3}{8}$	32.594	84.540	$17\frac{3}{8}$	54.585	237.104	$24\frac{3}{8}$	76.576	466.638
$3\frac{1}{2}$	10.995	9.6211	$10\frac{1}{2}$	32.986	86.590	$17\frac{1}{2}$	54.978	240.528	$24\frac{1}{2}$	76.969	471.436
$3\frac{5}{8}$	11.388	10.320	$10\frac{5}{8}$	33.379	88.664	$17\frac{5}{8}$	55.370	243.977	$24\frac{5}{8}$	77.361	476.259
$3\frac{3}{4}$	11.781	11.044	$10\frac{3}{4}$	33.772	90.762	$17\frac{3}{4}$	55.763	247.450	$24\frac{3}{4}$	77.754	481.106
$3\frac{7}{8}$	12.173	11.793	$10\frac{7}{8}$	34.164	92.885	$17\frac{7}{8}$	56.156	250.947	$24\frac{7}{8}$	78.147	485.978
4	12.566	12.566	11	34.558	95.033	18	56.548	254.469	25	78.540	490.875
$4\frac{1}{8}$	12.959	13.364	$11\frac{1}{8}$	34.950	97.205	$18\frac{1}{8}$	56.941	258.016	$25\frac{1}{8}$	78.932	495.796
$4\frac{1}{4}$	13.351	14.186	$11\frac{1}{4}$	35.343	99.402	$18\frac{1}{4}$	57.334	261.586	$25\frac{1}{4}$	79.325	500.741
$4\frac{3}{8}$	13.744	15.033	$11\frac{3}{8}$	35.735	101.623	$18\frac{3}{8}$	57.726	265.182	$25\frac{3}{8}$	79.718	505.711
$4\frac{1}{2}$	14.137	15.904	$11\frac{1}{2}$	36.128	103.869	$18\frac{1}{2}$	58.119	268.803	$25\frac{1}{2}$	80.110	510.706
$4\frac{5}{8}$	14.529	16.800	$11\frac{5}{8}$	36.521	106.139	$18\frac{5}{8}$	58.512	272.447	$25\frac{5}{8}$	80.503	515.725
$4\frac{3}{4}$	14.922	17.720	$11\frac{3}{4}$	36.913	108.434	$18\frac{3}{4}$	58.905	276.117	$25\frac{3}{4}$	80.896	520.769
$4\frac{7}{8}$	15.315	18.665	$11\frac{7}{8}$	37.306	110.753	$18\frac{7}{8}$	59.297	279.811	$25\frac{7}{8}$	81.288	525.837
5	15.708	19.635	12	37.699	113.097	19	59.690	283.529	26	81.681	530.930
$5\frac{1}{8}$	16.100	20.629	$12\frac{1}{8}$	38.091	115.466	$19\frac{1}{8}$	60.083	287.272	$26\frac{1}{8}$	82.074	536.047
$5\frac{1}{4}$	16.493	21.647	$12\frac{1}{4}$	38.484	117.859	$19\frac{1}{4}$	60.475	291.039	$26\frac{1}{4}$	82.467	541.189
$5\frac{3}{8}$	16.886	22.690	$12\frac{3}{8}$	38.877	120.276	$19\frac{3}{8}$	60.868	294.831	$26\frac{3}{8}$	82.859	546.356
$5\frac{1}{2}$	17.278	23.758	$12\frac{1}{2}$	39.270	122.718	$19\frac{1}{2}$	61.261	298.648	$26\frac{1}{2}$	83.252	551.547
$5\frac{5}{8}$	17.671	24.850	$12\frac{5}{8}$	39.662	125.184	$19\frac{5}{8}$	61.653	302.489	$26\frac{5}{8}$	83.645	556.762
$5\frac{3}{4}$	18.064	25.967	$12\frac{3}{4}$	40.055	127.676	$19\frac{3}{4}$	62.046	306.355	$26\frac{3}{4}$	84.037	562.002
$5\frac{7}{8}$	18.457	27.108	$12\frac{7}{8}$	40.448	130.192	$19\frac{7}{8}$	62.439	310.245	$26\frac{7}{8}$	84.430	567.267



Circumferences and Areas of Circles—Continued

Diameters, $\frac{1}{16}$ Inch up to and Including 110 Inches Advancing, $\frac{1}{16}$ to 1; $\frac{1}{8}$ to 50; $\frac{1}{4}$ to 80 and $\frac{1}{2}$ to 110

Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches	Diameter, Inches	Circumference, Inches	Area, Square Inches
27	84.823	572.556	34	106.814	907.92	41	128.805	1320.25	48	150.796	1809.56
27 $\frac{1}{8}$	85.215	577.870	34 $\frac{1}{8}$	107.207	914.61	41 $\frac{1}{8}$	129.198	1328.32	48 $\frac{1}{8}$	151.189	1818.99
27 $\frac{1}{4}$	85.608	583.208	34 $\frac{1}{4}$	107.599	921.32	41 $\frac{1}{4}$	129.591	1336.40	48 $\frac{1}{4}$	151.582	1828.46
27 $\frac{3}{8}$	86.001	588.571	34 $\frac{3}{8}$	107.992	928.06	41 $\frac{3}{8}$	129.983	1344.51	48 $\frac{3}{8}$	151.974	1837.93
27 $\frac{1}{2}$	86.394	593.958	34 $\frac{1}{2}$	108.385	934.82	41 $\frac{1}{2}$	130.376	1352.65	48 $\frac{1}{2}$	152.367	1847.45
27 $\frac{5}{8}$	86.786	599.370	34 $\frac{5}{8}$	108.777	941.60	41 $\frac{5}{8}$	130.769	1360.81	48 $\frac{5}{8}$	152.760	1856.99
27 $\frac{3}{4}$	87.179	604.807	34 $\frac{3}{4}$	109.170	948.41	41 $\frac{3}{4}$	131.161	1369.00	48 $\frac{3}{4}$	153.153	1866.55
27 $\frac{7}{8}$	87.572	610.268	34 $\frac{7}{8}$	109.563	955.25	41 $\frac{7}{8}$	131.554	1377.21	48 $\frac{7}{8}$	153.545	1876.13
28	87.964	615.753	35	109.956	962.11	42	131.947	1385.44	49	153.938	1885.74
28 $\frac{1}{8}$	88.357	621.263	35 $\frac{1}{8}$	110.348	968.99	42 $\frac{1}{8}$	132.339	1393.70	49 $\frac{1}{8}$	154.331	1895.37
28 $\frac{1}{4}$	88.750	626.798	35 $\frac{1}{4}$	110.741	975.90	42 $\frac{1}{4}$	132.732	1401.98	49 $\frac{1}{4}$	154.723	1905.03
28 $\frac{3}{8}$	89.142	632.357	35 $\frac{3}{8}$	111.134	982.84	42 $\frac{3}{8}$	133.125	1410.29	49 $\frac{3}{8}$	155.116	1914.70
28 $\frac{1}{2}$	89.535	637.941	35 $\frac{1}{2}$	111.526	989.80	42 $\frac{1}{2}$	133.518	1418.62	49 $\frac{1}{2}$	155.509	1924.42
28 $\frac{5}{8}$	89.928	643.594	35 $\frac{5}{8}$	111.919	996.78	42 $\frac{5}{8}$	133.910	1426.98	49 $\frac{5}{8}$	155.901	1934.15
28 $\frac{3}{4}$	90.321	649.182	35 $\frac{3}{4}$	112.312	1003.78	42 $\frac{3}{4}$	134.303	1435.36	49 $\frac{3}{4}$	156.294	1943.91
28 $\frac{7}{8}$	90.713	654.839	35 $\frac{7}{8}$	112.704	1010.82	42 $\frac{7}{8}$	134.696	1443.77	49 $\frac{7}{8}$	156.687	1953.69
29	91.106	660.521	36	113.097	1017.88	43	135.088	1452.20	50	157.080	1963.50
29 $\frac{1}{8}$	91.499	666.231	36 $\frac{1}{8}$	113.490	1024.95	43 $\frac{1}{8}$	135.481	1460.65	50 $\frac{1}{8}$	157.473	1973.35
29 $\frac{1}{4}$	91.891	671.958	36 $\frac{1}{4}$	113.883	1032.06	43 $\frac{1}{4}$	135.874	1469.13	50 $\frac{1}{4}$	157.865	1983.18
29 $\frac{3}{8}$	92.284	677.714	36 $\frac{3}{8}$	114.275	1039.19	43 $\frac{3}{8}$	136.266	1477.63	50 $\frac{3}{8}$	158.258	1993.03
29 $\frac{1}{2}$	92.677	683.494	36 $\frac{1}{2}$	114.668	1046.35	43 $\frac{1}{2}$	136.659	1486.17	50 $\frac{1}{2}$	158.650	2002.96
29 $\frac{5}{8}$	93.069	689.298	36 $\frac{5}{8}$	115.061	1053.52	43 $\frac{5}{8}$	137.052	1494.72	50 $\frac{5}{8}$	159.043	2012.91
29 $\frac{3}{4}$	93.462	695.128	36 $\frac{3}{4}$	115.453	1060.73	43 $\frac{3}{4}$	137.445	1503.30	50 $\frac{3}{4}$	159.436	2022.84
29 $\frac{7}{8}$	93.855	700.981	36 $\frac{7}{8}$	115.846	1067.95	43 $\frac{7}{8}$	137.837	1511.90	50 $\frac{7}{8}$	159.829	2032.79
30	94.248	706.860	37	116.239	1075.21	44	138.230	1520.53	51	160.221	2042.82
30 $\frac{1}{8}$	94.640	712.762	37 $\frac{1}{8}$	116.631	1082.48	44 $\frac{1}{8}$	138.623	1529.18	51 $\frac{1}{8}$	160.614	2052.87
30 $\frac{1}{4}$	95.033	718.690	37 $\frac{1}{4}$	117.024	1089.79	44 $\frac{1}{4}$	139.015	1537.86	51 $\frac{1}{4}$	161.007	2062.90
30 $\frac{3}{8}$	95.426	724.641	37 $\frac{3}{8}$	117.417	1097.11	44 $\frac{3}{8}$	139.408	1546.55	51 $\frac{3}{8}$	161.399	2072.95
30 $\frac{1}{2}$	95.818	730.618	37 $\frac{1}{2}$	117.810	1104.46	44 $\frac{1}{2}$	139.801	1555.28	51 $\frac{1}{2}$	161.792	2083.07
30 $\frac{5}{8}$	96.211	736.619	37 $\frac{5}{8}$	118.202	1111.84	44 $\frac{5}{8}$	140.193	1564.03	51 $\frac{5}{8}$	162.185	2093.19
30 $\frac{3}{4}$	96.604	742.644	37 $\frac{3}{4}$	118.595	1119.24	44 $\frac{3}{4}$	140.586	1572.81	51 $\frac{3}{4}$	162.577	2103.35
30 $\frac{7}{8}$	96.996	748.694	37 $\frac{7}{8}$	118.988	1126.66	44 $\frac{7}{8}$	140.979	1581.61	51 $\frac{7}{8}$	162.970	2113.51
31	97.389	754.769	38	119.380	1134.11	45	141.372	1590.43	52	163.363	2123.72
31 $\frac{1}{8}$	97.782	760.868	38 $\frac{1}{8}$	119.773	1141.59	45 $\frac{1}{8}$	141.764	1599.28	52 $\frac{1}{8}$	163.756	2133.93
31 $\frac{1}{4}$	98.175	766.992	38 $\frac{1}{4}$	120.166	1149.08	45 $\frac{1}{4}$	142.157	1608.15	52 $\frac{1}{4}$	164.148	2144.19
31 $\frac{3}{8}$	98.567	773.140	38 $\frac{3}{8}$	120.558	1156.61	45 $\frac{3}{8}$	142.550	1617.04	52 $\frac{3}{8}$	164.541	2154.45
31 $\frac{1}{2}$	98.968	779.313	38 $\frac{1}{2}$	120.951	1164.15	45 $\frac{1}{2}$	142.942	1625.97	52 $\frac{1}{2}$	164.934	2164.75
31 $\frac{5}{8}$	99.353	785.510	38 $\frac{5}{8}$	121.344	1171.73	45 $\frac{5}{8}$	143.335	1634.92	52 $\frac{5}{8}$	165.327	2175.01
31 $\frac{3}{4}$	99.745	791.732	38 $\frac{3}{4}$	121.737	1179.32	45 $\frac{3}{4}$	143.728	1643.89	52 $\frac{3}{4}$	165.720	2185.32
31 $\frac{7}{8}$	100.138	797.978	38 $\frac{7}{8}$	122.129	1186.94	45 $\frac{7}{8}$	144.120	1652.88	52 $\frac{7}{8}$	166.113	2195.63
32	100.531	804.249	39	122.522	1194.59	46	144.513	1661.90	53	166.506	2205.94
32 $\frac{1}{8}$	100.924	810.545	39 $\frac{1}{8}$	122.915	1202.26	46 $\frac{1}{8}$	144.906	1670.95	53 $\frac{1}{8}$	166.899	2216.25
32 $\frac{1}{4}$	101.316	816.865	39 $\frac{1}{4}$	123.307	1209.95	46 $\frac{1}{4}$	145.299	1680.01	53 $\frac{1}{4}$	167.292	2226.56
32 $\frac{3}{8}$	101.709	823.209	39 $\frac{3}{8}$	123.700	1217.67	46 $\frac{3}{8}$	145.691	1689.10	53 $\frac{3}{8}$	167.685	2236.87
32 $\frac{1}{2}$	102.102	829.578	39 $\frac{1}{2}$	124.093	1225.42	46 $\frac{1}{2}$	146.084	1698.23	53 $\frac{1}{2}$	168.078	2247.18
32 $\frac{5}{8}$	102.494	835.972	39 $\frac{5}{8}$	124.485	1233.18	46 $\frac{5}{8}$	146.477	1707.37	53 $\frac{5}{8}$	168.471	2257.49
32 $\frac{3}{4}$	102.887	842.390	39 $\frac{3}{4}$	124.878	1240.98	46 $\frac{3}{4}$	146.869	1716.54	53 $\frac{3}{4}$	168.864	2267.80
32 $\frac{7}{8}$	103.280	848.833	39 $\frac{7}{8}$	125.271	1248.79	46 $\frac{7}{8}$	147.262	1725.73	53 $\frac{7}{8}$	169.257	2278.11
33	103.672	855.30	40	125.664	1256.64	47	147.655	1734.94	54	169.650	2288.42
33 $\frac{1}{8}$	104.055	861.79	40 $\frac{1}{8}$	126.056	1264.50	47 $\frac{1}{8}$	148.047	1744.18	54 $\frac{1}{8}$	170.043	2298.73
33 $\frac{1}{4}$	104.458	868.30	40 $\frac{1}{4}$	126.449	1272.39	47 $\frac{1}{4}$	148.440	1753.45	54 $\frac{1}{4}$	170.436	2309.04
33 $\frac{3}{8}$	104.850	874.84	40 $\frac{3}{8}$	126.842	1280.31	47 $\frac{3}{8}$	148.833	1762.73	54 $\frac{3}{8}$	170.829	2319.35
33 $\frac{1}{2}$	105.243	881.41	40 $\frac{1}{2}$	127.234	1288.25	47 $\frac{1}{2}$	149.226	1772.05	54 $\frac{1}{2}$	171.222	2329.66
33 $\frac{5}{8}$	105.636	888.00	40 $\frac{5}{8}$	127.627	1296.21	47 $\frac{5}{8}$	149.618	1781.39	54 $\frac{5}{8}$	171.615	2339.97
33 $\frac{3}{4}$	106.029	894.61	40 $\frac{3}{4}$	128.020	1304.20	47 $\frac{3}{4}$	150.011	1790.76	54 $\frac{3}{4}$	172.008	2350.28
33 $\frac{7}{8}$	106.421	901.25	40 $\frac{7}{8}$	128.412	1312.21	47 $\frac{7}{8}$	150.404	1800.14	54 $\frac{7}{8}$	172.401	2360.59



Circumferences and Areas of Circles—Continued

Diameters, $\frac{1}{16}$ Inch up to and Including 110 Inches Advancing, $\frac{1}{16}$ to 1; $\frac{1}{8}$ to 50; $\frac{1}{4}$ to 80 and $\frac{1}{2}$ to 110

Diameter, Inches	Circum- ference, Inches	Area, Square Inches	Diameter, Inches	Circum- ference, Inches	Area, Square Inches	Diameter, Inches	Circum- ference, Inches	Area, Square Inches	Diameter, Inches	Circum- ference, Inches	Area, Square Inches
59	185.354	2733.97	69	216.770	3739.28	79	248.186	4901.68	95	298.452	7088.22
59 $\frac{1}{4}$	186.139	2757.19	69 $\frac{1}{4}$	217.555	3766.43	79 $\frac{1}{4}$	248.971	4932.75	95 $\frac{1}{2}$	300.022	7163.04
59 $\frac{1}{2}$	186.925	2780.51	69 $\frac{1}{2}$	218.341	3793.67	79 $\frac{1}{2}$	249.757	4963.92	96	301.593	7238.23
59 $\frac{3}{4}$	187.710	2803.92	69 $\frac{3}{4}$	219.126	3821.02	79 $\frac{3}{4}$	250.542	4995.19	96 $\frac{1}{2}$	302.164	7313.84
60	188.496	2827.43	70	219.912	3848.45	80	251.328	5026.55	97	304.734	7389.81
60 $\frac{1}{4}$	189.281	2851.05	70 $\frac{1}{4}$	220.697	3875.99	80 $\frac{1}{2}$	252.898	5089.58	97 $\frac{1}{2}$	306.306	7466.20
60 $\frac{1}{2}$	190.066	2874.76	70 $\frac{1}{2}$	221.482	3903.63	81	254.469	5153.00	98	307.876	7542.96
60 $\frac{3}{4}$	190.852	2898.56	70 $\frac{3}{4}$	222.268	3931.36	81 $\frac{1}{2}$	256.040	5216.82	98 $\frac{1}{2}$	309.446	7620.12
61	191.637	2922.47	71	223.053	3959.19	82	257.611	5281.02	99	311.018	7697.69
61 $\frac{1}{4}$	192.423	2946.47	71 $\frac{1}{4}$	223.839	3987.13	82 $\frac{1}{2}$	259.182	5345.62	99 $\frac{1}{2}$	312.588	7775.64
61 $\frac{1}{2}$	193.208	2970.57	71 $\frac{1}{2}$	224.624	4015.16	83	260.752	5410.61	100	314.159	7853.98
61 $\frac{3}{4}$	193.993	2994.77	71 $\frac{3}{4}$	225.409	4043.28	83 $\frac{1}{2}$	262.323	5476.00	100 $\frac{1}{2}$	315.730	7938.72
62	194.779	3019.07	72	226.195	4071.50	84	263.894	5541.77	101	317.301	8011.85
62 $\frac{1}{4}$	195.564	3043.47	72 $\frac{1}{4}$	226.980	4099.83	84 $\frac{1}{2}$	265.465	5607.95	101 $\frac{1}{2}$	318.872	8091.36
62 $\frac{1}{2}$	196.350	3067.96	72 $\frac{1}{2}$	227.766	4128.25	85	267.035	5674.51	102	320.442	8171.28
62 $\frac{3}{4}$	197.135	3092.56	72 $\frac{3}{4}$	228.551	4156.77	85 $\frac{1}{2}$	268.606	5741.47	102 $\frac{1}{2}$	322.014	8251.60
63	197.920	3117.25	73	229.336	4185.39	86	270.177	5808.80	103	323.584	8332.29
63 $\frac{1}{4}$	198.706	3142.04	73 $\frac{1}{4}$	230.122	4214.11	86 $\frac{1}{2}$	271.748	5876.55	103 $\frac{1}{2}$	325.154	8413.40
63 $\frac{1}{2}$	199.491	3166.92	73 $\frac{1}{2}$	230.907	4242.92	87	273.319	5944.68	104	326.726	8494.87
63 $\frac{3}{4}$	200.277	3191.91	73 $\frac{3}{4}$	231.693	4271.83	87 $\frac{1}{2}$	274.890	6013.21	104 $\frac{1}{2}$	328.296	8576.76
64	201.062	3216.99	74	232.478	4300.84	88	276.460	6082.12	105	329.867	8659.01
64 $\frac{1}{4}$	201.847	3242.17	74 $\frac{1}{4}$	233.263	4329.95	88 $\frac{1}{2}$	278.031	6151.44	105 $\frac{1}{2}$	331.438	8741.68
64 $\frac{1}{2}$	202.633	3267.46	74 $\frac{1}{2}$	234.049	4359.16	89	279.602	6221.14	106	333.009	8824.73
64 $\frac{3}{4}$	203.418	3292.83	74 $\frac{3}{4}$	234.834	4388.47	89 $\frac{1}{2}$	281.173	6291.25	106 $\frac{1}{2}$	334.580	8908.20
65	204.004	3318.31	75	235.620	4417.86	90	282.744	6361.73	107	336.150	8992.02
65 $\frac{1}{4}$	204.989	3343.88	75 $\frac{1}{4}$	236.405	4447.37	90 $\frac{1}{2}$	284.314	6432.62	107 $\frac{1}{2}$	337.722	9076.24
65 $\frac{1}{2}$	205.774	3369.56	75 $\frac{1}{2}$	237.190	4476.97	91	285.885	6503.88	108	339.292	9160.88
65 $\frac{3}{4}$	206.560	3395.33	75 $\frac{3}{4}$	237.976	4506.67	91 $\frac{1}{2}$	287.456	6575.56	108 $\frac{1}{2}$	340.862	9245.92
66	207.345	3421.19	76	238.761	4536.46	92	289.027	6647.61	109	342.434	9331.32
66 $\frac{1}{4}$	208.131	3447.16	76 $\frac{1}{4}$	239.547	4566.36	92 $\frac{1}{2}$	290.598	6720.07	109 $\frac{1}{2}$	344.004	9417.12
66 $\frac{1}{2}$	208.916	3473.33	76 $\frac{1}{2}$	240.332	4596.35	93	292.168	6792.91	110	345.575	9503.32
66 $\frac{3}{4}$	209.701	3499.39	76 $\frac{3}{4}$	241.117	4626.44	93 $\frac{1}{2}$	293.739	6866.16			
67	210.487	3525.66	77	241.903	4656.63	94	295.310	6939.78			
67 $\frac{1}{4}$	211.272	3552.01	77 $\frac{1}{4}$	242.688	4686.92	94 $\frac{1}{2}$	296.881	7013.81			
67 $\frac{1}{2}$	212.058	3578.47	77 $\frac{1}{2}$	243.474	4717.30						
67 $\frac{3}{4}$	212.843	3605.03	77 $\frac{3}{4}$	244.259	4747.79						
68	213.628	3631.68	78	245.044	4778.36						
68 $\frac{1}{4}$	214.414	3658.44	78 $\frac{1}{4}$	245.830	4809.05						
68 $\frac{1}{2}$	215.199	3685.29	78 $\frac{1}{2}$	246.615	4839.83						
68 $\frac{3}{4}$	215.985	3712.24	78 $\frac{3}{4}$	247.401	4870.70						



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